Austria ... Sch 22	Indonesia ... Rp 3100	Portugal ... Esc 100
Bahrain ... Din 0.650	Israel ... IS 3.50	S. Arabia ... Rls 6.00
Belgium ... BFr 48	Italy ... L 1500	Singapore ... S$ 4.10
Canada ... C$1.00	Japan ... Y500	Spain ... Pta 125
Cyprus ... C£0.75	Jordan ... Fils 500	Sri Lanka ... Rup 30
Denmark ... DKr 9.00	Kuwait ... Fils 500	Sweden ... SKr 8.00
Egypt ... E£2.25	Lebanon ... [illegible]	Switzerland ... SFr 2.20
Finland ... Fmk 7.00	Luxembourg ... LFr 48	Taiwan ... NT $65
France ... FFr 6.50	Malaysia ... Rin 4.25	Thailand ... Bht 50
Germany ... DM 2.20	Mexico ... Pes 300	Tunisia ... Din 0.800
Greece ... Dr 100	Morocco ... Dh 6.00	Turkey ... L 500
Hong Kong ... HK$ 12	Netherlands ... Fl 3.00	U.A.E. ... Dh 6.50
India ... Rup 15	Norway ... NKr 7.00	U.S.A. ... $1.00

FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

No. 30,254 · Tuesday June 9 1987 · D 8523 A

Bonn's welcome for refugees grows cooler, Page 26

World news | Business summary

Egyptians hold 500 religious extremists

Egyptian authorities, concerned about three unsolved political murder attempts, confirmed that 500 Moslem fundamentalists were being held for questioning.

Maj-Gen Zaki Badr, Interior Minister, gave details of the arrests in reply to opposition claims that thousands of religious extremists had been arrested. Page 26

Sri Lanka offensive

Sri Lanka security forces, ignoring India's objections, continued with operations against Tamil guerrillas in northern Jaffna peninsula and seized control of two more towns. Page 4

UK ports chaos

British docks and airports were in chaos as 200,000 civil servants staged a two-day strike for pay increases, timed to coincide with the final days of the UK general election campaign. Page 10

Berlin Wall demo

East German police broke up a demonstration at the Berlin Wall by about 1,000 youths who had gathered to listen to a rock concert being held on the West Berlin side of the wall. More than 20 people were arrested. Page 4

Basque bomb plot

Spanish police found more than 100 kg of explosives, timers and detonators at a motorway car park near Barcelona, thwarting an apparent pre-election bomb plot by Basque extremists.

North's log 'shredded'

Fawn Hall, former secretary to Lt Col Oliver North, of the US National Security Council, admitted she had shredded Lt Col North's telephone records shortly before a US Justice Department investigation had interviewed him. Page 6

Chernobyl scandal

Senior Ukrainian officials sent their children to rest homes in the Crimea after the Chernobyl accident while keeping local residents in the dark about the radiation danger, according to a Ukrainian journalist. Page 2

Shipping alert

South African vessels were searching for an empty oil barge the size of a rugby field – 425ft long and 100ft wide – which broke away from an American tug in rough seas off the eastern Cape coast.

Stockholm battle

Stockholm police arrested 90 demonstrators after they threw stones and bottles and chanted anti-American slogans outside the hotel where Nancy Reagan is staying during a three day visit to Sweden.

Storm kills 8

A freak storm tore across northern Spain and south-west France, killing eight people, overturning yachts, uprooting trees and ripping roofs from houses. About 30,000 French homes were without electricity.

Indian heat wave

Six more people died in Uttar Pradesh state, India, where the temperature soared to 48 degrees C (119 degrees F) and was expected to rise further, bringing the heat-wave death toll to 23.

Diplomat to leave

Britain said an administrative hitch which prevented UK diplomat Edward Chaplin leaving Tehran on Sunday had been sorted out and he was expected to leave Iran immediately.

Red Square ravioli

An authentic Italian restaurant with Italian chefs and waiters is to open in Moscow in a joint venture between a Soviet state company and Ferrari, an Italian company which makes sparkling wine.

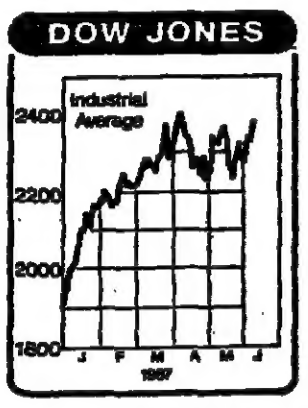
Liffe in move to discipline members

LONDON: International Financial Futures Exchange has imposed penalties on individuals and firms in what is the most serious breach of discipline so far discovered in the exchange's five year history.

Among those investigated was the UK unit of Cargill, the US commodity trading group and Mr Keith Catchpole, a senior floor trader, who left Cargill in January after the investigation was announced. Page 10

TOKYO equities climbed to record levels in moderate trading as investors sought shares with high earnings potential. The Nikkei average rose 159.68 to close at a record 25,523.89. Page 50

DOW JONES



WALL STREET: The Dow Jones industrial average closed up 25.49 at 2,351.65. Page 50

LONDON markets had a confident start to a potentially dramatic election week. Equities rallied from initial nervousness over the latest opinion polls, while government bonds moved ahead in late trading. The FT-SE 100 index closed just 0.4 lower at 2,228.4 while the FT Ordinary index was down 2.7 at 1,727.2. Details, Page 46

DOLLAR fell in London to DM 1.8045 (DM 1.8135); SFr 1.5005 (SFr 1.5030); FFr 6.0350 (FFr 6.0650); and Y143.40 (Y143.80). On Bank of England figures, the dollar's exchange rate index fell from 101.7 to 101.3. Page 39

STERLING rose in London to $1.6390 ($1.6310); SFr 2.4600 (SFr 2.4525); Y235.0 (Y234.50); but was unchanged at DM 2.9575 and FFr 9.8925. The pound's exchange rate index rose 0.1 to 72.7. Page 39

GOLD rose in London to $455.75 from $454.25. It also rose in Zurich to $454.75 from $452.75. Page 38

FIAT Automoveis, Brazil's fourth largest car manufacturer, suspended a US$300m investment programme because of the "extremely grave outlook" of the Brazilian economy. Page 28

FN HERSTAL, the diversified Belgian weapons and leisure goods maker, recorded a BFr 631m first quarter loss, much bigger than had been expected. Page 27

ANGLOVAAL, South Africa's smallest mining house, estimates profits will rise by 38 per cent to R127.6m. Page 27

ELSEVIER, the Netherlands' second largest publishing company, is going ahead with its hostile takeover bid for Kluwer and indicated that it has been buying shares in the open market. Page 28

SEAT Concessionaires (UK), the Lonrho subsidiary which imports Seat cars from Spain to the UK, lost £4.24m ($6.9m) in its first year of trading on turnover of £18.87m. Page 12

PERSTORP, the Swedish speciality chemicals and plastics group, increased profits in the first eight months by 39 per cent to SKr 303m ($47.7m) Page 28

CAESARS World, the US entertainment group, has rejected Martin T. Sosnoff's amended $35 per share tender offer. Page 27

UNIT Trust of India (UTI) is to launch a $100m US investment fund, together with merchant bankers Merrill Lynch. Page 27

US relaxes chip tariffs on Japan in summit gesture

BY STEWART FLEMING, PHILIP STEPHENS AND JOHN WYLES IN VENICE

PRESIDENT Ronald Reagan yesterday offered a modest gesture towards encouraging summit harmony with Japan by partially lifting the trade sanctions imposed in retaliation for alleged Japanese unfair trading in world semiconductor markets.

The US move reduces by $51m the $300m of special tariffs and duties on Japanese electronic goods which were imposed in March. It was announced shortly after a bilateral meeting between Mr Reagan and Mr Yasuhiro Nakasone, the Japanese Prime Minister, before the opening session of the seven nation world economic summit.

The Japanese leader promptly expressed appreciation for the decision and told Mr Reagan that he hoped that the sanctions would soon be fully lifted.

However, even this partial concession – based on Japanese progress in reducing the scale of dumping dynamic random access memories (Dram) – will bring stern criticism from the US Congress for easing pressures on Japan to alter its trading practices.

Defending the decision, Mr Reagan said that the partial lifting of the sanctions would, in fact, encourage Japan to change its ways. He pointed out that the concession followed an increase in the pricing of Dram from 59 per cent to 85 per cent of their market value.

"The Japanese Government has given me assurances that this positive pattern with respect to third-country dumping will continue. If this does not prove to be the case, I will not hesitate to reimpose the partial sanctions that have been lifted," warned the President.

US officials added that no change had been made in the penalty duties which were imposed in support of US complaints of restricted access to the Japanese semiconductor market.

While clearing one potentially troublesome cloud hovering over the summit, the US signalled yesterday readiness to make the agricultural trade issue another. During a 40-minute encounter with Mr Amintore Fanfani, the Italian Prime Minister and summit host, Mr Reagan indicated that he wanted the summit to build on last month's agreement among OECD finance ministers.

European participants have regarded the OECD's commitment to a "progressive reduction" in farm support and trade protection as a sufficient basis for the summit's declaration on the subject. US pressure at the summit for swift moves in this direction based on an agreed timetable are bound to encounter firm resistance from France, West Germany and Japan.

West German Chancellor Helmut Kohl's meeting with Mr Reagan was largely taken up with the US-Soviet negotiations to eliminate intermediate- and short-range nuclear weapons. According to Mr Howard Baker, the White House chief of staff, the President also told the Chancellor that he hoped that "the German Government would improve the level of economic activity in his country".

Continued on Page 26
Background, Page 3

Thatcher to meet Reagan today

British Prime Minister Margaret Thatcher yesterday transferred her election campaign to the international stage of Venice. After briefing leaders on her meeting earlier this year with Soviet leader Mikhail Gorbachev, she will this morning meet US President Ronald Reagan, who insists publicly that the US is neutral in the UK general election but has made little secret of his desire for Mrs Thatcher's re-election. Page 3. UK election news, Page 20, 21 and 26.

Baker clarifies White House policy on Gulf

BY JOHN WYLES IN VENICE

THE WHITE HOUSE yesterday spelt out in new detail its diplomatic aims in the Gulf, while formally denying charges that it was "sabre rattling" over the Silkworm missiles Iran threatens to deploy near the Straits of Hormuz.

Mr Howard Baker, the White House Chief of Staff, also retreated from earlier comments which appeared to welcome the "joint efforts" being made by the Soviet Union and the US "to preserve the flow of oil through the Persian Gulf".

Mr Baker had described these efforts as "historic" but when challenged yesterday by reporters on his comments, Mr Baker said the activities of the Soviet Union in the Gulf had been "distinctly unhelpful". He said US moves to match Moscow's decision to protect Kuwaiti tankers in the Gulf had "thwarted their efforts to extend their control and influence in general".

Explaining the backing which the US hopes to secure from its partners at this summit in Venice, Mr Baker referred back to the policy "first initiated by President Carter, and that is that no nation or combination of nations is going to interfere with transit on the high seas in the Gulf, and interrupt the flow of oil from the Middle East to the rest of the world."

He said that the "major contribution" which the industrialised countries at the summit could make would be to help the US diplomatically, and to secure a United Nations resolution "with teeth," which which would call for a ceasefire to the Iran-Iraq war. Mr Baker was questioned about the reactions of Mr Yasuhiro Nakasone, the Japanese Prime Minister, and Mr Helmut Kohl, the West German chancellor, who discussed the Gulf in bilateral talks with Mr Reagan yesterday. He said they had expressed support for the US position. The President, he said, had not asked for specific backing.

A strong statement of support from the summit would clearly help the Reagan Administration to bolster its position against the many critics and doubters of its Gulf policy on Capitol Hill.

CONCERN GROWS OVER POLICE USE OF GAS AGAINST DEMOS

The tearful residents of Seoul

BY MAGGIE FORD, KOREA CORRESPONDENT

A SEASONED US businessman recently asked a colleague new to Seoul whether he was taking Korean language lessons. The colleague replied that he had decided to study at Yonsei University. "Oh dear," said the businessman, "how will you cope with the tear gas?"

Avoiding the effects of the weapon which police use to disperse demonstrators is a problem that affects most residents of Seoul. Tear gas shells are fired by the dozen at a number of universities routinely every day, but the fumes spread well beyond the campus.

Along with tears, they produce a burning sensation in the throat and eyes, coughing and sneezing. Those exposed regularly report respiratory and skin problems. Concern about the long-term effects, especially on children, means that people choose carefully where they live. University areas are at the top of the unpopularity list.

As South Korea starts another week in which demonstrations are likely to spill out of the campuses and into the streets, complaints about the use of tear gas are beginning to mount.

On Wednesday, the ruling Democratic Justice Party is to hold its national convention. At the same time, a rally is planned in the centre of Seoul to protest against the suspension of talks leading to democracy and against the torture scandal which led to a number of Cabinet sackings late last month.

The police have already announced that thousands of riot police will be mobilised to block the demonstration. For the third time this year, Seoul is likely to suffer waves of tear gas as groups heading towards the rallying point are dispersed.

South Koreans may well be thankful that the police do not use more violent tactics, as is common in other countries where deaths can occur during anti-Government activity. But fears are growing over the effect of large volumes of tear gas used over long periods of time.

Environmentalists have noted that trees are dying on university campuses and birds and insects have departed because of the effects of the stronger tear gas used over the past few years. Medical staff at the teaching hospital attached to Yonsei University complain that patients, particularly children, suffer when the fumes drift into the wards.

A woman university professor, writing in a pro-Government newspaper at the weekend, expressed her worry that so many women students at universities were being exposed to tear gas, whether they were involved in demonstrations or not. The health of future generations of children might be affected, she said.

The volume of tear gas used has increased significantly over the past few years. In 1985, according to Ministry of Home Affairs figures, 204,000 shells were fired. In the first nine months of 1986 the figure had gone up to 313,200, costing $6.7m.

The total cost for the nine months of policing demonstrations was $73m. By comparison, the cost of normal police criminal investiga-

Continued on Page 26

Britain to take tougher stance on Iran

By Andrew Gowers in London

BRITAIN is to increase its monitoring of Iran's arms procurement operations in London. It may consider closing them altogether, following the row between the two countries over Mr Edward Chaplin, the British diplomat who was abducted and assaulted in Tehran 10 days ago.

Mr Chaplin was one of five British diplomats ordered to leave Iran by the Tehran Government last Saturday. He was due back in Britain last night after a last-minute administrative hitch delayed his departure on Sunday.

The Government is understood to be keen to determine whether Iran's arms buying offices are fully complying with British export licencing rules. It also plans to take a tougher line over requiring the Iranian authorities to identify and register staff at the missions.

One option is to close the missions, though officials say that is not the most likely outcome.

Britain says it does not sell weapons to Iran, but it does supply what is described as "non-lethal military equipment" for such purposes as transport.

However, Iran's London procurement offices – there are three (one for each armed service) employing a total of about 60 people – are believed to provide an important link in its worldwide arms buying network.

Diplomats say Britain has not kept as tight a rein on the Iranian operations in the past as it might have done, partly because this would have required the diversion of officials from other tasks. There are two reasons why the Government now wants to take a more critical look at their activities.

First, it wants to guard against any allegations that it supplies weapons to Tehran. This has become a particularly sensitive issue since last year's disclosure that the US was covertly selling arms to Iran.

Second, the Government does not want its stance on the recent dispute with Iran over the treatment of Mr Chaplin, the first secretary in the British interests section in Tehran, to be interpreted as a sign of weakness.

The Iranian expulsion of Mr Chaplin and the four other British diplomats came in response to Britain's decision to close Iran's consulate general in Manchester and to expel five consular officials.

Barclays aims to deal in US bond market

BY DAVID LASCELLES IN LONDON

BARCLAYS de Zoete Wedd, the investment banking arm of Barclays Bank, is preparing to join the US government securities market.

BZW announced yesterday that it has formed a new US-based company, Barclays de Zoete Wedd Government Securities Inc., to be a dealer in all securities issued by the US Government and federal agencies. In due course, the company will apply to the Federal Reserve Bank of New York for recognition as a fully fledged primary dealer.

The company will have capital of $100m, and will be managed by a four-man team lured across by BZW from Kidder Peabody & Co, another primary dealer owned by General Electric.

Sir Martin Jacomb, BZW chairman, said yesterday that the new company was an important step in building BZW's global securities business. "Establishing a presence in the US government securities market has for some time been a BZW objective," he said. "I'm delighted we're achieving it with such experienced management."

The management team will be headed by Mr Bernard Grigsby, previously head of government bond dealing at Kidder. The other members are Mr Samuel Marrone, chief operating officer, Mr Andrew Kessel and Mr Robert Harding. The new company will have staff of 15 by the end of this year, rising to 50 next year.

Barclays, which is one of the largest dealers in the UK gilt-edged market, decided that the most economic way to enter the US government market was by building up its own team rather than buying an existing dealer, as some banks have done. It expects the new company to become operational in August, and hopes to qualify as a primary dealer within two to three years.

Primary dealers, of whom there are now 40, are responsible for maintaining orderly markets in US government securities and bidding for new issues. They report daily to the New York Fed, and must each have at least 0.75 per cent of the average daily market turnover.

Barclays is the last of the large UK clearing banks to unveil its plans for the US Treasury bond market. Midland Bank is already a primary dealer, and both NatWest and Lloyds hope to achieve recognition within a year or so after going through the required probationary period. Among the merchant banks, Kleinwort Benson is a member, and Mercury International Group is applying for membership.

Plan for international express mail service

BY KEVIN BROWN IN LONDON

THE CHAIRMEN of 12 national post office authorities have reached agreement in principle on the creation of a joint company to handle their share of the fast-growing international express mail business.

The heads of the express mail operations of most of the authorities are meeting in Brussels today to discuss the details of the scheme.

The joint venture, which will probably be called Express Mail Services, will be owned and financed on an equal basis by the participating authorities.

The company's main role will be to take over the existing international express mail sorting centre at Brussels Airport, which is operated by the Belgian postal authorities.

It is also expected to take responsibility for marketing the integrated service and chartering aircraft.

The initial participants will be the postal authorities of the UK, Ireland, France, Belgium, the Netherlands, West Germany, Denmark, Sweden, Finland, Norway, Canada and the US.

In addition, the authorities in Switzerland and Luxembourg are expected to announce agreement shortly. Spain and Portugal are belived to be considering an application to join, and discussion have taken place with the Greek and Italian post offices.

In the long term, the joint operation could be extended to the 91 countries where postal authorities operate premium delivery services under the generic name of express mail services.

The effect of this would be to create an international network under a single name, which could be marketed as a direct competitor to the private express mail services operated by companies such as DHL of the US and TNT, based in Australia.

The international express mail market is thought to be growing at

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EUROPEAN NEWS

PRIVATE SURVEY SHOWS THE SOCIAL DEMOCRATS LEADING THE FIELD

Politicians square up for crucial Portuguese vote

CAMPAIGNING for Portugal's general election was started although there are two weeks to go before the election race officially gets underway.

Politicians are flooding all channels of the media and noisy weekend rallies have begun as party leaders attempt to gain maximum exposure for the July 19 vote.

One of the things lacking for the moment is the dreaded loudhailer vans that blithely disregard the noise abatement laws as they blare out the same snatch of the same party song every few minutes.

The other is opinion polls: The Portuguese media is barred from publishing these from the moment an election is called.

The snap general election was called last month by President Mario Soares to solve a political crisis that began when a left wing censure motion toppled the 17-month-old Social Democrat minority administration of Professor Aníbal Cavaco Silva. It loks like being a crucial time for Portugal, 14 years after democracy replaced autocracy.

The Social Democrats, under the uncompromising Prof Cavaco Silva, are aiming for a working majority. They have refused to join the Christian Democrats (CDS) with whom, under different leadership, they joined forces in 1979–1983 as Alianca Democratica, which took 44.9 per cent of the vote in 1980.

The refusal to field joint candidates does not preclude an arrangement after the elections if the Social Democrats (PSD) falls short of the 43 per cent of the vote it needs to achieve 126 seats – half the seats in parliament plus one.

Prof Cavaco Silva, who started professional life as a technocrat and since his meteoric rise to the PSD leadership in 1985 has learned to speak like a populist, is a tough political negotiator.

He offers a fairly stark challenge to an electorate that gave just under 49 per cent of the vote to the losing conservative presidential candidate, Prof Diogo Freitas do Amaral, in 1985. He might be massaged into a right-of-centre majority if the PSD and CDS campaigns hit the right tone.

Either the PSD gets a majority, Prof Cavaco Silva says, or Portugal falls apart. The economy backslides into austerity, public sector reforms will be impossible and the fabric of society will unravel.

To his left his closest potential rival is Mr Victor Constancio, leader of the Socialist PS since Mr Soares became president. His slogan is

Dr Mario Soares

Diana Smith in Lisbon previews the activity leading up to Portugal's snap election on July 17 and examines the political remedies being offered for the country's problems.

"Vote for the PS. Even if you are not a party supporter, give us your vote to keep the PSD out."

Mr Constancio says that if the PSD gets a majority, jobs will be at stake because the PSD will introduce harsh labour laws, and the country will become unstable.

Prof Cavaco Silva is touting the record of the last 18 months of rising incomes and less rapidly rising prices, more stable external accounts, more investment and job creation (though not as much as the government hoped) and the notion that if the PSD gets a majority, constitutional restrictions on full liberalisation can be abolished and Portugal can move ahead.

Mr Constancio is no adversary of liberalisation. But he has a problem: unless he can push the PS vote well ahead of the maverick Democratic Renewal Party (PRD), it will be hard for him to stress the PS's moderate side and to negotiate for the de-marxification of the constitution.

It was the PRD's chief, former president Gen Antonio Ramacho Eanes, who brought a censure motion last month that brought down Prof Cavaco Silva.

The PRD is not keen on constitutional change. Since its formation in 1985 it has tried to rob the PS of its traditional status as the major moderate party of the left-of-centre. It hopes the electorate will co-operate this time and it may bank on fear of outright liberalisation.

The hardline Communist Party, which did not welcome Mr Mikhail Gorbachev's Glasnost, a new alliance that does not mention the word "communist."

Its message, however, has changed little. Nationalisations are sacrosanct, as are the collectivising land reforms of 1975.

The PSD is a threat to workers and a strategic vote for the socialists is not on, it says. Its charismatic leader Mr Alvaro Cunhal is now in his mid-70s, the oldest of Portugal's major political leaders.

The young voter on the far left is less predictable than the middle-aged party faithful who remember the bitter days of dictatorship and needed little persuasion to vote communist.

Generally the electorate seems to be shifting towards a broad middle ground, sloping slightly to the right or to the left according to tastes.

A private poll taken in April that cannot be published in Portuguese allowing a 3 per cent margin, suggests that the Communists and Christian Democrats will lose votes with the Christian Democrats getting 5 to 8 per cent, and 10 to 13 per cent for the Communists compared with 1985 when the Communists got 15 per cent and the CDS 10 per cent.

The PSD shows a 40 to 43 per cent vote – well above its 30 per cent in 1985.

The top figure is enough to scrape a majority; the bottom requires an alliance with the CDS, who would present a large Bill in the shape of major government *portfolios for Christian Democrat* personalities.

The PS meanwhile looks strongish at 25 to 28 per cent, far ahead of its dismal 1985 showing of just under 21 per cent.

The poll puts the PRD at 11 to 14 per cent, down from 18 per cent.

Some PRD supporters are looking for 29 per cent of the votes to turn the tables on the Socialists.

Ukrainian heads under attack over Chernobyl

SENIOR Ukrainian officials sent their children to rest homes in the Crimea after the Chernobyl accident while keeping local residents in the dark about the radiation danger, according to a Ukrainian journalist, Reuter reports from Moscow.

In a strong indictment of power abuse and incompetence, published in the latest edition of the Soviet monthly Yunost (Youth), Mr Yuri Shcherbak gave the most detailed picture to date of the first hours after the nuclear accident on April 26 last year.

Quoting extensively from interviews with residents of Pripyat, the town which housed Chernobyl nuclear power plant workers and their families, he said a policy of secrecy had needlessly exposed thousands of people to excess radiation.

He also alleged that firemen, technicians and a doctor sent to the plant after the reactor exploded were not given protective equipment and were not informed of the massive release of radiation.

Mr Shcherbak, who has written other articles about the accident, said he received a letter from evacuated Chernobyl workers who told him they wanted the "criminal irresponsibility" of Pripyat and Kiev officials to be made public.

The workers said they had been aware of the high radiation levels at the plant and, during the day on April 26, had telephoned the Pripyat civil defence office to ask why children were being allowed to play outdoors.

"They answered: 'It's none of your business. A decision will be taken in Moscow," the letter said.

"Everyone learned only later, on May 7, that a decision to send the children of the top leadership ... to the Crimea had been taken immediately and that the "chosen children were sent to a sanatoria in the Crimea on May 1."

The evacuation of Pripyat, three miles from the Chernobyl plant, did not begin until more than 36 hours after the accident.

Mr Shcherbak said a meeting was held in Pripyat on the morning of April 26 by a senior Ukrainian Communist Party official who advised residents to go about their business as usual.

Mr Malomuzh, second secretary of the party's Kiev regional committee, ordered schools and shops to stay open and said it was necessary that scheduled weddings take place as planned.

Mr Shcherbak named the plant's sacked former director Mr Bryukanov, Pripyat health officials Mr Leonenko and Mr Pecheritsa and former Soviet deputy health minister Mr Vorobyev as responsible for the gravity of the situation.

The plant's new director, Mr Mikhail Umayetz, told journalists recently that Mr Bryukanov and other Chernobyl officials would be judged in a trial due to open next month.

Cheap European air fares in the balance

BY TIM DICKSON IN BRUSSELS

THE FATE of the European Community's initiative on cheaper air fares appears to hang on the outcome of a crucial meeting of EEC transport ministers in Luxembourg tomorrow.

Officials of the European Commission now accept that there are too many outstanding differences between member states for the final package on airline liberalisation to be tied up this week. But they believe that if "substantial progress can be achieved this time—notably on the thorny question of access to established routes for new airlines—the finishing touches could be completed at a second scheduled Transport Council later this month.

The Commission has already threatened to withdraw its proposals if a political agreement is not reached by June 30. But the feeling in Brussels, in any case, is that the best chance of a breakthrough lies with the Belgium presidency of the Community.

The Danes take over the "chair" on July 1, and, while enthusiastic about some parts of the current package, they are distinctly cool about the rest and are not expected to give the issue a high priority on their policy agenda.

The next three weeks represent the main challenge for Mr Hermann de Croo, Belgium's Transport Minister, who will be anxious to bring the long drawn out political negotiations on airline liberalisation to a conclusion.

Two serious problems stand in his way. The first is that member states remain badly divided about parts of the package, which is designed to loosen the capacity and revenue sharing agreements between airlines and government, allow the greater number of discount fares, and open up routes to more competition.

At the moment the last of these is proving to be the big stumbling block. Many member states are worried by the implications for their national carriers of more flights between so-called "hub" airports like Heathrow and Charles de Gaulle and smaller regional airports.

The second problem is that, because of the delay in implementing the Single European Act, the majority voting rules enshrined in this amendment to the Treaty of Rome will not be available until July. Any agreement on air transport in June will therefore have to be unanimous.

Local election successes halt Ozal party's slide

BY DAVID BARCHARD IN ANKARA

A STRING of successes in local elections for Turkey's ruling Motherland Party at the weekend has put a temporary stop to the apparent slide in the fortunes of Mr Turgut Ozal's government and revived speculation that the premier may call a general election a year early this autumn.

The Motherland Party picked up 55 of 84 mayoral positions being contested across Turkey on Sunday, and polled 45 per cent of the votes.

On the face of it this was as good a performance as in the 1983 general election which brought it to power. Its nearest rival, the centre-right True Path Party, gained just under 28 per cent of the votes and 17 mayoral seats.

The victory had been widely predicted, although it came after a disastrous month for the Ozal government which had raised speculation about its survival.

Local elections, often fought over promises of more funds from central government to small communities are not necessarily a good indicator of likely general election prospects. However, the results show that the Motherland Party's constituency machine is in top gear.

The results also underline the continuing decline of Turkey's social democrats. Two left of centre parties together polled less than 17 per cent of the votes.

It seems increasingly clear that the next general election will be a contest between Mr Ozal and former prime minister, Suleyman Demirel. Sunday's results were also encouraging for Mr Demirel, a rural populist conservative, who appears to be gathering urban working-class votes by appealing to low-income groups formerly hostile to him.

● Turkey had a current account deficit of $453m in the first three months of the year, 37 per cent lower than at the same point last year. A better trade performance and a higher volume of remittances from workers abroad were mainly responsible.

Shevardnadze to visit Yugoslavia

THE SOVIET Foreign Minister, Mr Eduard Shevardnadze, will visit Yugoslavia at the end of this month, a Yugoslav Foreign Ministry spokesman said yesterday, Reuter reports from Belgrade. He said that Mr Shevardnadze and his Yugoslav counterpart, Mr Raif Dizdarevic would discuss bilateral co-operation and *international* topics. The exact date of the visit was not known.

The Soviet Union is Yugoslav's biggest trading partner, and the volume of trade is expected to reach $6.3bn this year, compared with slightly less than $5bn last year.

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EUROPEAN NEWS

Wet going as Fanfani wins the Ducal dash by a short head

BY JOHN WYLES

VENICE FLUFFED its lines yesterday and produced a downpour on the opening of the world summit which soaked feet, feelings and the dignity of the arrival ceremonies for the seven heads of government.

Dignity requires a certain slowness of movement and not the brisk canter along a red carpet employed by Mr Amintore Fanfani, belying the 79 years of this very diminutive Italian Prime Minister and summit host, when he greeted the first two arrivals.

These were an apprehensive Wilfried Martens, his Belgian counterpart, and Mr Jacques Delors, the President of the European Commission. In Brussels, where both men work, you do not organise an open air event because the climatic Murphy's law in Belgium always decrees rain like stair rods.

Italy's own version of this capricious law forced Mr Fanfani and the two representatives of the European Community to shelter under a colonnade while the military band, dripping from the elements in the open courtyard of the Ducal Palace rattled off a bar or two of Beethoven's Ode to Joy (the Twelve's anthem).

Then came the moment when the three had to take the red carpet route through the falling rain to the palace interior. Mr Fanfani waved a challenge for the others to follow. Midroute when a somewhat overweight Mr Martens was getting up steam, the tiny Italian shout out an arm and called an abrupt halt.

A nasty accident was only narrowly avoided, and after disentangling themselves from the ensuing pile-up, the three paused for a secand and a half to bow to the guard of honour. Mr Fanfani and Mr Martens then quickly resumed their old pace, leaving Mr Delors apparently facing the wrong way and risking a distant third in the red carpet stakes.

By the time Sir Geoffrey Howe arrived two hours later, the skies had lifted somewhat, the rain had ceased and the black feathers hung a little less sadly from the bushman-type hats sported by the guard of honour. Deputising for Mrs Thatcher, the British Prime Minister, whose electioneering schedule decreed a late arrival, Sir Geoffrey had no trouble keeping up with the Italian beneath his left shoulder, which is just as well since the Foreign Secretary is not built for speed.

As the rain was falling, President Ronald Reagan was also having trouble with his script in the dry fastness of the Cipriani Hotel. Mr Bill Plante, a member of the pool of journalists allowed in for a reverential peep at the President's bilateral meeting with Chancellor Helmut Kohl of West Germany, threw a question at Mr Reagan about the Gulf. "Sam, I can't talk about things like that," the President answered.

The confusion was spotted by the time of the pool's next arrival for a glimpse of the bilateral with Mr Yasuhiro Nakasone. "I just want you to know that the next time Sam asks me a question, I shall call him Bill," Mr Reagan told Mr Plante.

Thatcher extends her election campaign trail south

BY PHILIP STEPHENS

MRS Margaret Thatcher, the British Prime Minister, transferred her election campaign to the international stage last night with her arrival at the seven-nation economic summit in Venice. She will spend 18 hours at the three-day meeting.

The summit began last night with a dinner for heads of state and government.

Mrs Thatcher was said to be briefing other heads of state on her meeting in April with Mr Mikhail Gorbachev, the Soviet leader. As prospects improve for a summit between Mr Gorbachev and President Ronald Reagan later this year, Mrs Thatcher is believed to be anxious to receive credit for her role in East-West arms negotiations.

Before the opening of the formal session this morning, she will hold bilateral talks with President Reagan, a move designed to focus attention on the strength of their special relationship.

While insisting publicly that the US remains neutral in the election, President Reagan has made little secret of his desire for Mrs Thatcher to be re-elected.

According to British officials, the Prime Minister has been emphasising that Britain was playing a full role in helping the US to promote freedom of navigation in the Gulf. It has three warships in the area to defend British tankers.

There were signs last night, however, that on one issue Mrs Thatcher could find herself at odds with some of her Western allies.

Mr Brian Mulroney, Canada's Prime Minister, called on other summit leaders to issue a strong statement condemning the policies of the present Government in South Africa and called for further progress towards the dismantling of apartheid. He was quoted by Canadian officials as describing the situation in South Africa as "the greatest human rights concern of our time".

Italy and the US were also said to favour some sort of statement on South Africa.

Mrs Thatcher, however, was said to be strongly opposed to such a public condemnation. Officials from other delegations had said that Britain had made it clear in the run-up to the summit that it regarded the issue as too politically sensitive during an election campaign.

The official said that Britain had also indicated that it wanted to focus Western attention on aid for the Front Line states in southern Africa, rather than on renewed attacks on the Pretoria Government.

In discussions on the world economy this morning, Mrs Thatcher will give an upbeat assessment of Britain's performance and prospects. In the election campaign in Britain, she has repeatedly stressed that Britain's economy is growing faster than that of the other major industrialised nations.

Allies such as France are also set to have taken the lead from the Conservative Government in introducing privatisation programmes and in other moves to liberalise their economies.

The Prime Minister will return to London at lunchtime today leaving Sir Geoffrey Howe, the Foreign Secretary, to represent Britain until the summit ends on Wednesday afternoon.

Mr Nigel Lawson, the Chancellor, who missed last night's opening dinner for the finance Ministers will pay only a fleeting seven-hour visit to Venice today.

Japan aims to avoid a 'bashing'

By Philip Stephens

"DO YOU think that there will be Japan-bashing?" inquires the anxious Japanese diplomat. "Will Mrs Thatcher attack Japan?" asks a senior correspnodent of one of Tokyo's leading newspapers.

As the seven-nation summit began in Venice last night, the questions were still to be answered. What was clear was that Mr Yasuhiro Nakasone, Japan's Prime Minister, had arrived with one key objective—to keep his country out of the spotlight as regards criticism.

To try to ensure that he succeeds, the Tokyo government has launched one of the most sophisticated diplomatic offensives seen at such a gathering.

Mr Nakasone has bitter memories of last year's summit in Tokyo. As host then, he found himself at the centre of attacks from his Western allies on issues ranging from the value of the yen to his country's tax on imports of Scotch whisky.

Crucially, he failed to win a commitment from his partners to stabilise the yen. Its subsequent climb brought howls of protest from Japnese industry. Mr Nakasone was judged to have presided over a failure

This time, the diplomatic process started two weeks ago, with the announcement of the inevitable package of measures to stimulate Japan's flagging economy. The details of the package, said by Tokyo to be worth Y6,000bn (£25.6bn), are still murky. But, even the most sceptical of Japan's allies concede that it seems bigger than anything previously.

It was accompanied by two separate moves designed to defuse potential "Japan-bashing" by Mrs Thatcher's Government.

Baker adapts to reduced circumstances

BY STEWART FLEMING, US EDITOR

EUROPEAN OFFICIALS are saying that Mr James Baker, the US Treasury Secretary, has learnt the ropes, that he is now more subtle in negotiations with them. The Americans know there is another reason for the shift in tactics. The Treasury Secretary does not have the pull at the bargaining table that he had in the first two years after taking office in 1985.

Then, with Mr Paul Volcker, the Federal Reserve Board chairman, and Mr Richard Darman, his intellectual power house, at his side, the urbane and skilful Texan was the dominant politician on the international economic scene.

He took centre stage in the management of the devaluation of the dollar after the Plaza Accord in October 1985, and with some modest success used the threat of devaluation to press his country's industrial country trading partners into adopting the economic policy prescriptions he favoured. He also changed perceptions of Third World indebtedness by announcing a revision of the debt strategy and making efforts to revive growth as the focus of attention.

But as Mr Baker prepared yesterday to meet finance ministers of the other six major industrial countries, even American officials were conceding that the US has to play a more cautious game now. The vulnerability of the dollar on the foreign exchanges and the commitment Mr Baker has made to work for exchange rate stability means that the threat of dollar devaluation is no longer a weapon Mr Baker can control.


Mr Reagan and Mr Nakasone hold pre-summit talks

The last hint of such a game plan ahead of a meeting of the seven finance ministers came before February's meeting in Paris which formally established currency stability as a common goal.

Instead, in the run up to the Venice summit the US's efforts to strengthen the process of economic policy co-ordination in a way which would help it exert additional pressure for growth on West Germany and Japan seemed to have been successfully rebuffed.

Part of Mr Baker's problem is domestic. He is the member of an administration whose leader has lost credibility and will soon lose office. Mr Darman has gone, and in spite of Mr Baker's entreaties Mr Volcker has resigned leaving a hint of policy disagreements hanging over his departure.

The US press has taken to criticising him saying his policies have failed to reduce the trade deficit and that the "Baker plan" for tackling the debt crisis has collapsed.

Such judgments are too harsh. The legacy of budget and trade deficits he inherited in 1985, and which he helped create as White House chief of staff, were not susceptible to quick solutions. The fact that Mr Baker also decided to stay on the fringe of the budget debates meant that the one economic policy tool he most needed to manipulate was out of his control.

The hint he dropped on Monday night that a tax increase will eventually be needed to tackle the deficit suggests that he may be preparing to play a bigger role on this issue next month. Were a convincing budget deficit reduction package to emerge, Mr Baker would be well placed to demand more stimulative economic policies from West Germany and Japan.

Mr Baker knows too that time is running out for him as well as for Mr Reagan. Asked here whether he would stay until the end of the President's term, he made clear he would not. He will soon be too busy trying to help his friend Vice President George Bush succeed Mr Reagan

Pope urges Warsaw to stress rights

By Christopher Bobinski in Warsaw

POPE John Paul II, at the beginning of a seven-day visit to his native Poland, the third since he became the head of the Roman Catholic Church in 1978, yesterday urged the Polish Government to respect human rights.

"Remember religious freedom, freedom of association, the freedom to speak one's own views, human dignity," he told General Wojciech Jaruzelski, the Polish party leader, in Warsaw's royal castle.

The Pope was referring to Poland's peace initiatives and Soviet bloc arms policy when he stressed that peace was inseparable from human rights and noted this was now a central tenet of church teaching. He told the Polish leader, who banned the Solidarity free trade union when he imposed martial law in 1981, to begin the "struggle for peace" at home by respecting society's human rights.

In a public statement just before the two men held a private meeting Gen Jaruzelski pledged that the process of reform in Poland was continuing. He implicitly recognised Church pressure for more democracy when he asserted that Poland was seeing the development of "socialist pluralism."

Earlier, several hundred thousand people lined the route into the city from the airport waving flags, cheering and clapping, as the Pope drove slowly past

At the airport, the Pope spoke of the essentially religious nature of his visit. He is to attend a Eucharistic Congress,

The authorities have taken strong measures to prevent Solidarity demonstrations, but groups of the banned union's supporters did chant "Solidarosc, Solidarosc" as the Pope drove past.

EUROPEAN NEWS

FIRST CASE GOES TO COURT

Equality law forces Finns to pay up or play the game

BY OLLI VIRTANEN IN HELSINKI

FINLAND has become one of the first countries to put a price on sex discrimination. More precisely, it ranges up to, £4,200.

Thanks to the new equality law *discrimination against* women — and men, for that matter — is now a criminal offence for which the victims can be sued for damages. The first such case is now being tested in court.

The law covers all aspects of social life except family, church and the defence forces.

At first glance there seems to be little cause for the law. Finland was the first country in Europe to grant women the vote. The percentage of women MPs (32 per cent) is the second highest in Europe after Norway, and, as in all Nordic countries, two-earner families are the rule, rather than the exception. Finland's female population seems to be more equal with men than their counterparts in most other countries.

Not so, say the labour unions, politicians and, the Finnish women's movement. Only 5 per cent of Finns work in places where there is about an equal number of men and women. Every third Finn has a job *in which 90 per cent of* colleagues are either men or women. More important, the average wage of women is some 40 per cent below that of men.

The law itself is far reaching. *Companies* cannot advertise for men or women alone. Equal wages must be paid for equal work. Job descriptions *cannot* be based on sex, nor can promotions, transfers or dismissals.

The new law came into effect at the beginning of the year with a sticky start. Appointment of the equality ombudsman, the key figure in policing the law, turned out to be difficult. Eventually, to the dismay of many women, a man, Mr Paavo Nikula, was chosen.

In a sense the appointment became the first test of the law. *As his formal qualifications* more than equalled those of other candidates, there was no reason to discriminate against his sex.

The law itself is far reaching. Companies cannot advertise vacancies for men or women alone. Equal wages must be paid for equal work. Job descriptions cannot be based on sex, nor can promotions, transfers or dismissals.

Likewise, authorities are required to "provide conditions for increased equality in child care and domestic work." Study books are prohibited from containing material which would "enhance stereotype *perceptions of role models in family* and working life."

The law states that employers must promote equal distribution of men and women and provide them with equal opportunities to advance in their careers.

There are a number of exceptions. Societies and associations may grant membership solely to men or women if this is stated in their statutes. Special protection for pregnant women is not regarded as discrimination and neither are measures which specifically aim to improve the position of either sex. *The law also leaves advertising* untouched.

Certain obvious vacancies, such as an actor or an actress for a predetermined role, can be openly designated for one sex only. Likewise an elderly person may express his or her wish to have a private male or female nurse. The law also allows an employer to hire a relative or a friend despite a more qualified applicant of the opposite sex.

Nevertheless the principle of equality has left many employers cold. Abiding by every *single* requirement increases bureaucracy and certain jobs, particularly ones which demand physical strength, are simply not suited for women.

Finland's police chiefs, for example, have raised serious questions about the future of *the force. More than half of* the applicants are now women, and according to the new law, new appointments must reflect the same ratio.

Recently the equality ombudsman gave his first ever statement in a case in which the Ministry for Trade and Industry appointed a male to a high ranking civil service job over a more qualified female applicant.

It looked very much like a political appointment (he was a fellow party member of the then trade and industry minister) but the overlooked candidate, Mrs Anna-Liisa Levonen, took the matter to the equality ombudsman who agreed the ministry had violated the law.

Mrs Levonen then took the case to court, which may, on the basis of the supporting *statement by the ombudsman*, require the ministry to pay the victim compensations ranging between FM 10,000-30,000 (£1,400-£4,200). The court has yet to reach a decision.

Compensation is all a suffering party can hope to receive. Victims of discrimination, like Mrs Levonen, will not get an original decision overturned. But, at least equality is now very much in the public eye in Finland.

Strike hits Ireland's hospitals

By Hugh Carnegy in Dublin

ALMOST HALF Ireland's hospitals were operating drastically reduced services yesterday on the third day of a stoppage by junior doctors, the second public service strike faced by the Fianna Fail Government since it introduced a cost-cutting budget in March.

The Irish Medical Organisation said about 900 of the country's 1,800 non-consultant hospital doctors had stopped work in 33 hospitals where no agreement had been reached on job cuts planned under a programme of severe spending cuts in the health service.

In several cases junior doctors had returned to work to ease acute difficulties in paediatric and neo-natal units but otherwise consultants provided emergency cover.

Most affected hospitals cancelled routine admissions and non-essential out-patient cover.

The IMO has called for direct talks with the Government. But Dr Rory O'Hanlon, said yesterday that the dispute could only be resolved through discussions between doctors and local health authorities.

The doctors are not objecting to spending cuts and job losses in themselves but say there must be guarantees that junior doctors will not have to work excessive hours as a result. They meet tomorrow to decide whether to escalate their action.

There was no sign of a change in the government's tough line on insisting its budget cuts must stick to reduce public deficits and cut high state borowing. In May, a strike by electricity workers ended with a pay settlement *within government guidelines.*

East Berlin rock fans in clashes

By Leslie Colitt in Berlin

EAST BERLIN policemen using batons yesterday dispersed nearly a thousand young people chanting "The Wall must go" near the Brandenburg Gate between East and West Berlin. Nearly 30 young East Germans were also arrested during angry scuffles close to the Soviet embassy on Unter den Linden Boulevard which was sealed off by the police.

The unusual clashes took place after an outdoor rock concert at the Reichstag, the former German Parliament just across the Wall in West Berlin, attracted a crowd of some 3,000 East Berliners. Hundreds of youths managed to break through a police cordon at the Soviet embassy and gathered near a barrier only 30 metres from the border in order to hear the music.

President Ronald Reagan is to speak at the Brandenburg Gate during a visit to West Berlin next Friday.

When the concert by the Eurythmics rock group was over shortly after midnight, the East Berlin police moved to clear the boulevard. Scuffles broke out and angry youths began chanting "The Wall must go," "Down with the pigs" and "Freedom and democracy."

Hundreds of East Berlin rock fans had gathered on Saturday evening on Unter den Linden to hear an outdoor concert at the Reichstag by the British singer David Bowie. The East Berlin police sealed off streets and were the object of angry abuse from youths prevented from getting closer to the border strip to hear the music.

Yesterday, the East German authorities ordered a police alert for a concert last night by the British rock group Genesis, which had been expected to attract a similar crowd in East Berlin.

● China's Prime Minister, Zhao Ziyang, arrived in East Berlin yesterday for talks aimed at restoring cordial *links*, Reuter reports from East Berlin.

OVERSEAS NEWS

Peter Blackburn reports from Abidjan on plans to expand the role of the 75-member bank

Huge capital increase for African Development Bank

MR BABACAR N'DIAYE, the the president of the African Development Bank,, will be seeking to establish the claim that his institution is one of the most effective instruments for channeling development aid into Africa at the bank's annual meeting in Cairo which starts today.

The Abidjan-based bank, which includes 50 African and 25 non-African members, is poised for a great leap forward.

During the next five years the AFDB group, which includes the soft loan affiliates, African Development Fund and Nigeria Trust Fund, plans to lend over \$8bn—roughly equivalent to its entire lending over the past 20 years.

The *expansion in the bank's* activities is based on three developments:

● The bank's governors are expected in Cairo to approve formally a 200 per cent increase in its capital. This will raise its capital to \$20.8bn from \$6.9bn and put it in the same league *as other multilateral development* banks.

● The governors will also have a third round of talks concerning a substantial replenishment of the African Development Fund. Mr N'Diaye is seeking to double the fund's resources to \$3bn for the three-year (1988-90) lending period in order to help meet the "critical" needs of the poorest African countries.

● Mr N'Diaye will be looking for endorsement from the governors for a radical and controversial reorganisation recently carried out. The changes are intended to improve the bank's efficiency and equip it for a major expansion in its activities.

In a lengthy interview with the Financial Times, Mr N'Diaye described the increase in the bank's capital as "remarkable."

He pointed out that, for the first time, a regional development bank has obtained the increase it requested even though it was the largest ever.

Mr N'Diaye will be looking for endorsement from the governors for a radical and controversial reorganisation recently carried out

The "massive" support given by non-African countries, including the US, was according to observers, exceptional, especially in view of their criticism of other development banks.

The huge capital increase will enable the bank greatly to expand lending and consolidate its role as an "important motor" in the drive towards African development, Mr N'Diaye said.

Observers point out, however, that the non-African countries have reduced the bank's original \$10.6bn five-year (1987-1991) lending target to \$6.4bn pending a mid-term review.

Although this was fiercely resisted by Africa nmembers, Mr N'Diaye recognises with hindsight that the decision was "prudent" and will help to safeguard the bank's financial ratios and two triple A and one Double A credit ratings.

Observers point out that an astute formula enables even the poorest African countries to subscribe to the huge capital increase. Only 6.25 per cent of the increase is paid up and this is spread over 10 years for African members.

About half the bank's African members are in arrears on previous capital subscriptions and non-African countries have insisted that voting rights should be linked to effectively paid up capital stock.

However, in order to preserve the African members' two-*thirds* voting majority, unsubscribed capital stock may be transferred between them.

No such problem occurs with the fund whose resources are mainly subscribed by non-African members.

In the first two funds meetings in Rome and Paris Mr N'Diaye and his colleagues have presented the case for substantially increased aid for Africa's poorest countries in order to reverse declining per capita incomes.

The bank president has argued that these countries can absorb increased concessional aid, notably through structural adjustment and other non-project lending, to *support policy* reforms. Such lending would be co-ordinated with the more experienced World Bank.

Finally Mr N'Diaye will explain to the AFDB's governors that the recent bank re-organisation was necessary to enable the institution to effectively administer the planned big expansion in lending.

In contrast to Mr Barber Conable, the World Bank president, Mr N'Diaye has been criticised for moving too fast.

"The implementation, not the principle is contested" one non-African executive director said. "It was a mistake to start with a big batch of promotions. It gives the impression the bank is full of chiefs," he added.

"For the first time, promotions have been made on merit instead of length of tenure," a close aide to *Mr N'Diaye* explained.

However, critics within the bank complain of arbitrariness, regional and religious bias in favour of French-speaking West Africans and Moslems, repayment of election debts and parachuting in outsiders.

The criticisms are strongly rejected by Mr N'Diaye who points out that the reorganisation was first planned by his predecessor three years ago and only executed after detailed studies and consultation.

The reorganisation involved the creation of 48 new departments and divisions increasing the *total number of "command* posts" to 109. So far, 32 of the new posts have been filled, only four by outsiders. However, most of the remaining posts, though are likely to be filled by outsiders because of a lack of suitable internal candidates, Mr N'Diaye said.

Some observers say that more attention should be paid to "quality" rather than "quantity" of lending, and suggest greater impact could be made with "fewer dollars and more homework"

"Appointments should be looked at in a historical perspective," Mr N'Diaye said. "Imbalances cannot be corrected overnight."

The West African share has been reduced to 38 per cent from 46 per cent while the North African share has been increased to 18 per cent from 9 per cent as a result of the reorganisation.

Some observers are concerned that the Bank may be trying to expand both "too fast" and in "too many directions at once."

Last year lending by the AFDB group rose 42.1 per cent to \$1.6bn and disbursements by 26 per cent to \$672m.

Bank lending rose 46 per cent to just over \$1bn—the first time it has broken this barrier. Renewed borrowing by Nigeria and Algeria after an absence of nearly 10 years was a major factor behind the big increase.

However, some observers say that more attention should be paid to the "quality" rather than "quantity" of lending and suggest that a greater development impact could be made "*with fewer dollars and more* homework."

While wishing to preserve the African character of the bank non-African countries would like to make it more efficient and encourage lending in new areas such as environmental protection.

Although they understand the African desire that the AFDB should not be a "carbon copy" of the World Bank, they are sometimes uneasy about lending policy.

For instance there is concern about the bank's recent decision to grant Zambia a \$19.2m loan, despite the fact that it has abandoned IMF austerity programmes and limited debt repayments.

Sri Lankan forces renew Jaffna offensive

By John Elliott in Colombo

SRI LANKAN armed forces have started the second phase of their military operations against Tamil extremists in the northern peninsula of Jaffna, according to sources in India's High Commission in Colombo.

This action *is believed to* include air strikes and bombing, despite an explicit request made by India, following its invasion of Sri Lankan airspace last week, that there should be no such aerial bombardments. Government forces are estimated now to hold almost half the land area of the peninsula.

India now has to consider whether to try to assert its authority and ignore widespread international criticism of its actions, or to accept denials issued by the Sri Lankan government that it had started a second phase.

Significantly, senior Sri Lankan ministers and officials are most anxious to emphasise their denials that there have not been any air strikes in the recent operations.

According to Sri Lankan officials, the offensives of the past few days, which have been completed, were only securing a one and a half mile strip between Palali airport on the north coast and the main north-eastern area of Vadamarachchi captured last week, plus an area two and a half miles from the adjacent strategically important port of Kankesanturaj.

However, observers believe that these successful actions against the extremists, plus *other troop movements from* the east, are not merely piecemeal mopping up operations for phase one. It is being suggested that they constitute phase two, already in operation for three days, which could take the forces to the outskirts of Jaffna city within two or three more days.

It is not yet clear whether an attempt would then be made to take Jaffna city, with a serious risk of thousands of civilian casualties, or whether the troops would pause on the perimeter of the city to allow civilians to move out.

India now has a problem of credibility, unless the suspicions of its Colombo High Commission are wrong. The main purpose of its air drop of food supplies last week was to assert some authority over the course of *the offensive* against the Liberation Tigers of Tamil Eelam, the main extremist group wanting some form of independence or devolution in the north and east of the island.

Some diplomats believe the force of India's military message was blunted by conciliatory remarks made by the Indian Government at the end of last week about having talks with Sri Lanka.

Meanwhile, the Sri Lankan Cabinet is split about how to respond to India's suggestion of more talks on the *ethnic* crisis. Some moderate ministers want to rebuild relationships, while others are belived to be directly or indirectly involved in organising a massive demonstration against India which has been postponed from yesterday morning to this afternoon.

Lebanon divisions deepen over Karami's death

Mr Amin Gemayel

LEBANESE Moslem leaders gathered in west Beirut yesterday to consider a worsening dispute with Christian President Amin Gemayel over the unsolved mystery of Prime Minister Rashid Karami's assassination, Reuter reports from Beirut.

Mr Karami, a veteran Sunni Moslem politician with close links to Syria, died on June 1 when a bomb exploded on an army helicopter taking him fron north Lebanon to Beirut.

President Gemayel has ordered official inquiries, but Moslem mili*tia leaders and politicians have* accused him of hiding the truth.

Parliamentary Speaker Hussein Husseini, who resigned on Friday over the affair, Acting Prime Minister Selim Hoss and Shi'ite militia leader and Justice Minister Nabih Berri joined other Moslem leaders to discuss the controversy.

There was no report on the outcome of their talks.

Political sources said a Moslem delegation was expected to travel to Damascus shortly. Syrian sources said Druze militia chief Walid Jumblatt held a two-hour *meeting* with Vice-President Abdel-Halim Khaddam in the Syrian capital.

Beirut newspapers said the Syrian leader wanted to mend a rift between former allies Mr Berri and Mr Jumblatt, whose men fought in the streets of west Beirut in February.

Mr Jumblatt has accused Mr Gemayel, the army and the Christian Lebanese Forces militia of in*volvement in Mr Karami's murder.*

Mr Gemayel, facing mounting Moslem pressure to take action against the killers, has promised to punish anyone found responsible by military and judicial investigators.

"The army will not be used as a cover for those who committed crimes," he told palace visitors yesterday, adding that he would not let the military become a scapegoat either.

Mr Gemayel was speaking shortly after Mr Hoss urged him to take a "historic stand" and unmask the premier's killers.

Mr Jumblatt, head of the mainly Druze Progressive Socialist Party, warned that Karami's murder might provoke further fighting in Lebanon's 12-year-old civil war.

"The assassination of Mr Karami in these circumstances means a declaration of war," he told a weekend rally in his Shouf mountain fief. "It seems they and their masters in Israel and America want war. If they war, we are for it.

"We shall wreak vengeance for the blood of Karami against the ar*my and the (Gemayel) regime.*"

Deposed Fijian Premier seeks support in London

BY ROBIN PAULEY, ASIA EDITOR

THE POLITICAL future of Fiji became further confused yesterday as the deposed Prime Minister lobbied in London for his reinstatement while the island's Governor General said he was confident parliamentary rule would be restored without making any reference to the Cabinet overthrown in last month's coup.

Dr Timoci Bavandra, the Prime Minister overthrown by a bloodless military coup a month after a general election, is in London to drum up support for his argument that he remains the democratically elected Prime Minister of a sovereign state.

His position is complicated because the Governor General, Ratu Sir Penaia Ganilau, has taken executive control of the islands during the emergency and has appointed an interim government to rule pending new elections and the report *of a* committee, also appointed by him, on the future of the constitution.

Sir Penaia has advised the Queen that during the post coup state of emergency she should not see any politicians and should conduct relations with Fiji through him. This means that Dr Bavadra will be denied a *personal interview* with the Queen although he was due last night to see Sir William Heseltine, the Queen's private secretary, which is as close as he can get to the monarch without meeting a member of the Royal Family.

He is also discussing his position with the Commonwealth Secretariat in London. "The Commonwealth is for democracy and democracy has just been destroyed and demolished in Fiji," he said.

Dr Bavadra, who has refused to join the Governor General's provisional government, was overthrown on May 14 by the military headed by Lt Col Sitiveni Rabuka. He was elected after his party gained the support of poor Melanesian Fijians and Indians, now the largest ethnic group in the islands, in the election.

This was the first time since independence in 1970 that the Melanesians were not in control of the island government and, critics of the coup argue, Dr Bavadra's overthrow means democracy in Fiji in effect fell at its first test.

S Africa union man held

A HIGH-RANKING official of South Africa's largest black labour federation was detained by security police yesterday in a pre-dawn raid on his home, the Congress of South African Trade Unions said, AP reports from Johannesburg.

Mr Sydney Mufamadi, Cosatu's assistant secretary-general was taken from his home in Soweto by officers who spent 90 minutes searching the house

The congress said the detention was part of "an orchestrated attack" by the Government aimed at weakening or destroying the 650,000-member organisation.

"By restricting and obstructing the work of Cosatu, the Government is working directly to disrupt and destroy the movement toward a democratic society," Mr Frank Meintjies, a Cosatu spokesman, said in a statement. "The most immediate negative consequences will be felt in the area of industrial relations."

Hundreds of officials and members of Cosatu's affiliated unions have been among the estimated 25,000 people detained without charge at some point during the current state of emergency.

Killers strike at Manila police

BY RICHARD GOURLAY IN MANILA

SENIOR MILITARY officers yesterday said urban units of the Communist-led New People's Army were responsible for killing some of the 20 policemen and soldiers shot dead in Manila in the last two weeks.

Gen Renato de Villa, the Philippine constabulary chief, said the resumption of attacks was "psychological" and designed to show they are able to operate in Manila. There was no clear confirmation from the NPA that they have launched an urban assassination campaign as there has been in the past. However, a Manila newspaper quoted a man who said he was the leader of an urban cell claiming responsibility for the killings.

Meanwhile, the president of the Land Bank of the Philippines yesterday recommended to President Corazon Aquino that she limit legislation for land reform initially to lands where the programme can be immediately implemented.

The new propsal is backed by Mr Jaime Ongpin, Finance Secretary, who is among a number of conservative figures who believe that comprehensive land reform covering all arable lands is essential to undermining the Communist-led insurgency.

The alternative proposal presented to Mrs Aquino yesterday *would cover reform of about* 77 per cent of all arable lands. It would include rice and corn lands not covered in 15 years of an ineffective programme under former President Ferdinand Marcos, idle lands and government held lands.

Masinde dies in Kenya

MR ELIJAH Masinde, the leader of western Kenya's Dini ya Musambwa sect and a thorn in the flesh of successive colonial and independent Kenyan governments, died yesterday at the age of 75, Reuter reports from Nairobi.

Mr Masinde founded his African fundamentalist sect in 1942 as a direct challenge to the British authorities, urging his followers to destroy their identity cards and not to pay taxes.

He was deported to the island of Lamu on the Indian Ocean coast in 1948 and detained there until May 1961.

Mr Masinde, who described himself as a prophet, continued to oppose secular rule after Kenya's independence in 1963 and spent much of the rest of his life in and out of prison.

He died at home in Maine village near the western town of Bungoma, 200 miles northwest of Nairobi.

● Uganda has received short-range anti-aircraft missiles and large artillery pieces from Libya and has deployed some of them against rebels in the north-east, according to diplomatic sources, Reuter reports from Nairobi.

The arms arrived at Entebbe airport near the capital, Kampala, last Wednesday aboard a Libyan aircraft and were then *sent east in a* heavily defended convoy, they said.

Japan sends diplomatic apology to China over official's remark

JAPAN expressed regret yesterday over a diplomatic row with China and said the situation did not favour a long-term improvement in relations.

The row concerns criticisms of Japan by Chinese leader Deng Xiaoping and a response from an unnamed Japanese official that Mr Deng appeared disassociated from the true state of Japan-China relations.

"Should the reported remark (by the unnamed official) have given China a feeling of displeasure, it would be highly regrettable since the remark is contrary to what Japan really means," Mr Kimio Fujita, head of the Asian bureau of the Japanese Foreign Ministry, told Mr Xu Dunxin, a Chinese embassy minister.

Mr Fujita said the reported remark was not the ministry's official view.

Mr Deng made his criticism of Japan's defence and trade policies during talks with a Japanese politician in Peking last Thursday.

Deng Xiaoping

An unnamed senior official of the Japanese foreign ministry was then quoted by the Japanese press as saying Mr Deng appeared to have become disassociated from the true state of Japan-China relations.

China *protested to Japan about* the reported remark, a Japanese Foreign Ministry spokesman said.

"This situation is not favourable to a long-term development of Japan-China relations," Mr Fujita said.

Mr Fujita said the Japanese Government and people highly appreciated how much Mr Deng had contributed to bilateral relations and had no intention of criticising him.

Mr Fujita's comments were reported by a Foreign Ministry spokesman.

Mr Deng's criticisms included a remark that an increase in Japan's military spending would please the few people in Japan who wanted to see their country become a strong military power, according to a visiting Japanese delegation.

This was a reference to Japan's decision last December to boost its military spending for the 1987/88 financial year beyond a self-imposed ceiling of one per cent of gross national product.

Deng also criticised Japan's trade policies and a court judgment in favour of Taiwan – and against Peking – over ownership of a student hostel in Japan. Reuter

Pakistan to reshape budget plan

PAKISTAN's unpopular new budget is to be hurriedly reshaped following widespread protests against new taxes and a day of rioting in which a man was shot dead by police, Reuter reports from Islamabad.

Mr Mohammad Khan Junejo, the Prime Minister, yesterday told a 14-member committee it had just 24 hours to come up with ideas for making the budget acceptable to the masses.

The budget, announced on Thursday and due to take effect on July 1, contained Rs 20bn (\$1.15bn) of new taxes – three times last year's amount. They included a controversial new defence tax and higher duties on most petroleum products, electricity, natural gas, cigarettes, beverages and telephone calls.

It brought criticism and protests which escalated into rioting yesterday in the city of Karachi,

A PARTNER FOR THE FUTURE

IRI

What IRI is and what IRI is not

IRI is a State Corporation, but the companies it controls are not state owned companies. They are joint stock companies which are subject to the norms governing Italian private companies.
The shares of the companies it controls can be sold privately and quoted on the Stock Exchange. There are state-participation companies in France and the United Kingdom, but the formula adopted by IRI has, compared to the other models, an essential organizational peculiarity: the operational companies are integrated within an industrial group, rather than being operated singly under the control of different government ministries. This characteristic is important, because it allows the operation of the IRI Group according to criteria and strategic measures which are comparable to those used by large business corporations.

Crisis and reorganization

After the Second World War, IRI played an essential role within the Italian economic system, by intervening to eliminate the bottlenecks to development which existed in the basic industries and in the transport system: steel, highways, airlines. Later, IRI had to face the consequences of the crisis which exploded on a world scale during the Seventies, while intervening both to support the Italian productive system, and supporting the restructuring of its own sectors which were in a state of crisis. It also had to redirect its productive efforts toward technology areas: the areas which are ushering in the new industrial scenarios of the end of this century.
When, at the start of the Eighties, the reorganization of both the economic and financial sectors was started at IRI, losses had reached 8 percent of the total sales of the Group and the number of employes surpassed 540,000.
Five years after the start of this important reorganization, IRI has once again reached the break-even point: important sectors, such as aerospace, telecommunications, plant construction, food industry were lossmakers in 1982. Aeritalia, Selenia, Italtel, Ansaldo and SME the most important companies which were affected by market conditions, are again profitable. The IRI Group still contains some holds in the red, but they are mostly confined to sectors where the crisis is still at its peak in Europe and around the world: first of all steel manufacture and shipbuilding.
Today, the Group has 440,000 employes, which make it second in the world after General Motors in personnel numbers. Total sales, which were 33,000 billion Lire in 1982 have increased to 47,000 billion lire in 1986. In this category, IRI stands in the fourteenth place among the world's great corporations and holds the third place outside the United States. Financial charges which had reached 18 percent of sales in 1982, dropped to more than half, at 8 percent.

Services, manufacturing, engineering and construction: one strategy

IRI has a somehow complex organization: as central holding it controls banks like BANCA COMMERCIALE ITALIANA, CREDITO ITALIANO, BANCO DI ROMA, BANCO DI SANTO SPIRITO, Mediobanca and sectoral subholdings. The main subholdings are FINMECCANICA, STET, FINSIDER, ITALSTAT, SME, FINCANTIERI, FINMARE, FINSIEL, ALITALIA which in broad terms cover three operational horizons: service, manufacturing, engineering. Within these horizons there are specific sectors where the presence of IRI is particularly relevant for the Italian economic system: in services Sip covers 80 percent of the Italian TLC traffic, ALITALIA 90 percent of air transportation, FINMARE 20 percent of maritime trasportation, Autostrade 50 percent of highways, IRI banks cover 17 percent of national lending.
In manufacturing FINSIDER has 55 percent of total national production of steel, FINCANTIERI 70 percent of shipbuilding, Selenia and Aeritalia 55 percent of aerospace, Italtel 50 percent of TLC switching, Sgs 98 percent of microelectronics, SME 20 percent of food industry.
In engineering Ansaldo covers 65 percent of the energy sector, Italimpianti 25 percent of the industrial sector, and the ITALSTAT companies 17 percent of the infrastructure an environment protection sector.

The return of private capital

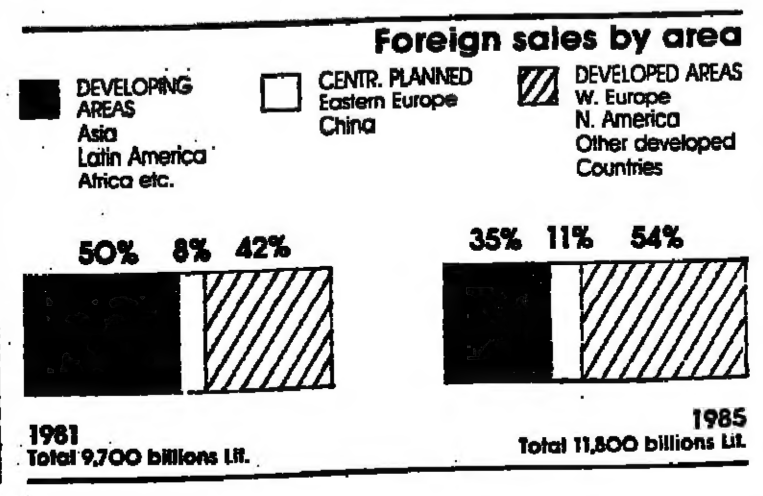
IRI's finances at the start of the Eighties were in very critical condition. Self-generated resources had been drastically reduced, and further state contributions were impossible. A large plan for financial restructuring was started and privatisation played a major role. This meant sales of companies or parts thereof: of marginal companies without a specific strategic mission; of companies which were lossmakers but which were of potential interest to private investors; of companies which could have reached their break-even points, but did not appear coherent with long-term objectives. From 1983 until today, 23 companies of various sizes from the giant Alfa Romeo to the small Ducati have gone into the hands of the private sector, where they have been able to display renewed vitality.
Privatisation meant also selling of stocks, exceeding majority control, of companies in IRI portfolio already listed on the stock market as well issuing convertible bonds and warrants.
Moreover five IRI companies have been quoted for the first time on the stock market: Sirti; Aeritalia; Credito Fondiario; Autostrade and Ansaldo Trasporti.
The major part of the sales took place on the Italian market, although two very important investments (200 billion lire by the BANCA COMMERCIALE ITALIANA and 180 billion lire by STET) took place in 1985 on the international market.
Capitalization of the 18 IRI companies on the Milan stock market amounts to more than 20 percent of the total market; the number of companies listed is 11 percent; dividends amount to 35 percent.
Globally, the launching of shares on the market allowed an income in the past four years of over 5,500 billion lire.

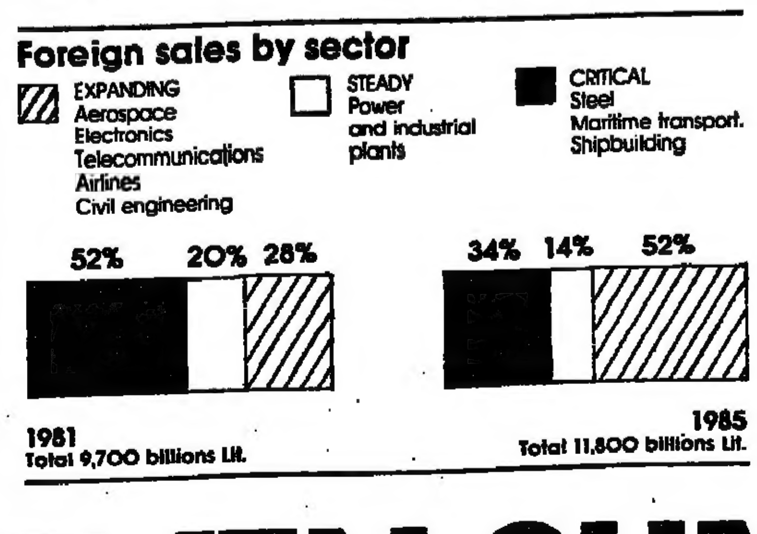
A Group open to the world

Deep changes are affecting relations among the main industrial companies on the world arena, and new spaces for alliances are being created, which will transform in the next few years the entire horizon of international cooperation.
Thus, for the future, internationalization is a compulsory step.
In order to continue in its mission to serve the country, IRI must contribute to maintain the Italian industrial system in fine tune with that of the most advanced nations of the world.
The decision of the Italian government to proceed to a progressive liberalization of capital markets shows clearly the path to follow.
For the IRI companies, especially, internationalization coincides with the search for more adequate productive dimension. A concrete example is the recent agreement signed between STET and THOMSON in the microelectronics sector an agreement which was born of the need to cover ever more costly research and development projects.
The same applies to the agreement between STET and FIAT in the telecommunications sector, which gave birth to Telit. This increases the power of the Group on going to international negotiations.
In the aeronautics sector, Aeritalia has been for a long time a partner of the main international constructors. Examples are the participation in the construction of Boeing 767 and of ATR 42 with Aérospatiale, and the recent agreement with Mc Donnell Douglas for MD-11.
The same goes for the sector of energy plant construction where Ansaldo has been cooperating with General Electric and Westinghouse.
The search for partnerships concerns all sectors.
The steel crisis will cause all structures to be reconfigured not merely at a European level, but perhaps on a world scale. The days of a national steel program will soon be over. The proof is the difficulty of overcoming the crisis which is presently affecting this sector. But the air transport sector is also nearing a season for new agreements and mergers by national companies, according to a trend of deregulation which is affecting world fares.
On the other hand, the foreign component of IRI is already playing an essential role.
The revenues from foreign activities account for 26 percent of total sales and nearly 40 percent if one considers manufacturing activity. They come from 120 companies with headquarters in Italy, which have exported about 10,000 billion lire and from 90 companies which operate entirely abroad, with world sales in the area of 2,000 billion lire. The IRI Group also has minority shares in 30 companies located abroad.
IRI's propensity for foreign markets and for agreements with foreign partners are accompanied by a progressive revaluation of its qualifications in the technological and commercial areas. This is due to the growth of exports of high technology products and the growing importance of trade with the highly industrialized countries.

IRI GROUP: CONSOLIDATED SALES AND TOTAL BANK LENDING 1986 (billion lire)

FINSIDER	10,892
FINMECCANICA	7,455
STET	14,414
ITALSTAT	3,197
SME	3,417
FINMARE	1,264
FINCANTIERI	1,152
FINSIEL	447
ALITALIA	3,738
RAI	2,177
OTHERS	232
CONSOLIDATED SALES	47,074
TOTAL LENDING BANKING SECTOR	136,100





VENICE: THE BIG SEVEN SUMMIT

AMERICAN NEWS

Contra questions to North 'lasted five minutes'

BY LIONEL BARBER IN WASHINGTON

PRESIDENT Ronald Reagan's chief investigator of illegal US intelligence activities questioned Lt-Col Oliver North in 1985 for five minutes only, as part of an official inquiry into the colonel's support of the Nicaraguan Contra rebels.

The inquiry was conducted in August 1985, when several US newspapers wrote detailed accounts of how Col North, a middle-rank aide on the National Security Council staff, was involved in private fund-raising on behalf of the Contras during a Congressional ban on US aid to them.

Mr Bretton Sciaroni, a lawyer serving the President's Intelligence Oversight Board told the Iran-Contra hearings in Congress yesterday that he interviewed the chief counsel at the NSC, Commander Paul Thompson, for 30 minutes, and then spoke to Col North very briefly in his White House office.

Congressman Tom Foley of Washington exclaimed: "And you consider this to be a thorough investigation?"

Mr Sciaroni, once an academic at the Hoover Institute and the American Enterprise Institute in Washington DC, specialising in public affairs, said he had no experience of intelligence matters or investigations until he joined the Intelligence Oversight Board.

He said that, during his investigation of Col North, he visited Commander Thompson, who told him that some of Col North's files were not available for inspection because they were personal and related to current intelligence matters. He had no powers to subpoena and took Col North's word that he was "not involved in illegal activities."

Mr Foley asked: "Do you consider that you were given inadequate, incomplete information? Do you consider you were misled?"

Mr Sciaroni at first declined to answer, then said: "It would appear so."

PRI drops bid to expel Mexican reformer

BY DAVID GARDNER IN MEXICO CITY

MEXICO'S RULING Institutional Revolutionary Party (PRI) has withdrawn its attempt to expel the leader of the so-called Democratic Current within its ranks, Mr Cuauhtemoc Cárdenas.

Mr Jorge de la Vega, PRI chairman, has three times in the past week explained that Mr Cárdenas, a former state governor and senator, remains a party member.

The PRI leaders effectively excluded Mr Cárdenas from the party in March, through what it then thought was an inspired manoeuvre. It replied to his open letter, which said he no longer recognised the moral authority of the PRI leaders by stating that the former governor had decided not to collaborate further with the party. The leaders hoped thereby to avoid a messy procedural battle over outright expulsion.

Mr Cárdenas and his Democratic Current colleagues, particularly Mr Porfirio Muñoz Ledo, a former PRI chairman, and education and labour minister, chose to ignore Mr de la Vega and take their case to the party rank and file.

This has raised Mexico's political temperature complicating an already difficult process whereby President Miguel de la Madrid, in conclave with the main Mexican and party vested interests, is choosing his successor, who will probably be unveiled in the second week of October and elected next summer.

Mr de la Vega is engaged with his colleagues in what the 70-year-old regime calls taking soundings when the PRI's stock among Mexicans is at rock bottom.

Mr Cardenas and Mr Muñoz Ledo are impugning the system through which the president is chosen, calling for an open campaign inside the party, to be decided by a vote, rather than presidential soundings and eventual declaration.

Arbitration upheld for brokerage disputes

By William Hall in New York

THE US brokerage industry yesterday won a long-running battle to have disputes between brokers and their individual clients resolved through arbitration rather than by resort to courts

The US Supreme Court yesterday overturned a Federal Appeals Court decision in New York which had earlier permitted two small investors to sue their broker for fraud in a US court although they had signed the standard brokerage contract which calls for any disputes to be settled by arbitration. The appeals court had ruled that a court, rather than an arbitration panel, is the proper place to hear law suits brought under the general anti-fraud provision of the 1934 Securities Law.

The seven-year-old legal battle, which arose after a New York couple had alleged that a Shearson Lehman Brother's broker had lost a lot of their money after charging huge commissions, has been closely followed by the US securities industry because it could have changed forever the way brokers settle disputes with their customers.

There has been considerable concern within the brokerage industry that if the arbitration clause in the standard brokerage contract was no longer upheld, brokers would be vulnerable to massive lawsuits and unpredictable jury awards. Critics of the present system have argued that arbitration favours the brokerage firms because the arbitrators are often former employeers of the brokerage industry.

The Supreme Court ruled yesterday that neither Federal Securities Law, nor the Federal Anti-Racketeering law, bars enforcement of arbitration agreements for lawsuits against brokers charged with fraud. The justices were unanimous in ruling that racketeering-law claims should be arbitrated but divided five to four in saying that violations of the securities law anti-fraud provision should also be arbitrated.

Mr Edward I. O'Brien, president of the Securities Industry Association, the main trade association for the industry, welcomed the decision.

Stewart Fleming weighs up a young Democratic contender for the US presidency

A man who moves to America's new beat

SENATOR JOSEPH BIDEN, 44, tall and elegant is sitting in a New England Telephone Company factory in Dover, New Hampshire, surrounded by a handful of working women.

"If I were President of the US the first thing I would do is put a day care centre in the White House, I mean that seriously." Then he asks, how many of you working women have got that call at 7.30 in the morning from the person who looks after your children during the day, or your child is sick, and you face the decision, "What shall I do?" So, he goes on, you call up the boss and you say "Hello I'm sick."

It is vintage Joe Biden. He is talking the language of his audience, making them laugh, convincing them he understands their problems. More important he is, through an every day homespun example, describing for them what sort of President he wants to be, what sort of problems he believes he will confront, and how he will try to deal with them.

The President, he says, has a bully pulpit, and its his job to use it.

But there is another message he is conveying, one which touches on a central theme of the campaign for the Democratic Party's Presidential nomination he will launch this week. A new generation of Americans is coming to political power. Almost half of those who vote in the next presidential election will have been born since World War Two.

The America they are living in is not the one they grew up in he says, the one in which dad went out to work and mom stayed at home to look after the family. "Six out of ten kids in high school today when they graduate, will have gone through divorce," he says. It is a time for change.

Accomplishing that change, the adjustment of management/relations to make the US economy more efficient, making the vital decision on whether to "nuclearise the heavans" or complete "the most significant arms control agreement in human history," these are decisions which the next President of the United States will face. "I look at all this, to sum it up" he told his enraptured audience "and I see the next President of the United States has a chance to genuinely bend history, just a little bit. That doesn't happen to many people who get to that office."

One question Sentator Biden will not find himself having to answer very often in the months ahead is "Why do you want to be President?" He exudes a passion for the office. "I would rather not win the nomination than then lose the election," he says, as he explains why he is trying to adopt positions which will appeal not just to the Democratic Party activists who turn out in primary elections, but also to the electorate at large.

So far as the Congress is concerned "I was the first person categorised as a liberal or progressive (Democrat) who said we must get tough on crime. . . . I have been somewhat critical for six years of my party's unwillingness to take on entrenched interest groups on matters that were not taken on that no longer work."

Senator Biden has indeed shown a willingness to take unpopular positions, coming out for example, against bussing to integrate schools, a move which angered liberal Decocrats. But he has also carefully carved out a position on trade policy which he can sell to the protectionists within the Labour movement whose support he will need to win the nomination and the Presidency.

Defending himself against the charge that his position on trade policy is opportunistic—it calls vaguely for retaliation against surplus countries with unfair barriers on a dollar for dollar basis—Senator Biden retorts "we run the risk of a major rout on trade. Unless we deal with it in three years there will be a call to bring home American troops that is genuine and real. I believe you will see a serious effort to talk about Japan having to remilitarise to take care of 'their' ocean."

Senator Joseph Biden

"I would argue," he goes on, "that my trade policy is proportional. It must speak to the pain and the confusion and the anger (of American workers) and at the same time do it in a way that allows us not to become isolated, insulated and ultimately defeated."

Protectionism would be the "worst possible policy" he says but he indicates that sharing the burden of responsibilities amongst the Western allies is an issue he would want to address. "I would expect as President for us in a friendly way and open and private way to begin to redefine the relationship," amongst the Western allies.

Senator Biden's critics argue the combination of his short attention span coupled with his finely tuned political antennae have prevented him from sticking patiently with issues in the way which is needed to develop a strong legislative record on Capitol Hill.

After having a major impact on the arms control debate at the end of the Carter Presidency, Senator Biden was perceived to have withdrawn from the issue when Mr Reagan took office. He tired too of the budget policy debate and ultimately resigned from the Senate budget committee. Both were arguably shrewd political moves at the time given the stalemates which ensued. But it has left a question mark hanging over Senator Biden's commitment to the substance of the policy debates, although not over his intellectual capacity to grapple with complex issues.

Neither are there any doubts about his personal strength or sincerity. Within weeks of his victory in the first Senate race in 1972 his first wife and baby daughter were killed in a car crash and his two sons seriously injured. He was persuaded to take his Senate seat nevertheless, but has spent four hours a day for the past 15 years commuting between Washington and his home in Delaware. He married again in 1977.

Senator Biden can also call upon substantial material resources. In the first three months of this year he raised $1.7m, most of it in a single month — the largest sum raised in that period by any candidate and an amount which caught the attention of Washington's political professionals.

He also has in his corner the man many believe to be the best political strategist in the ranks of the Democratic Party, Mr Patrick Caddell.

At the core of Senator Biden's campaign is the conviction that the American Presidency is an institution which can, in the right hands and at the right time, provide leadership which can change the way the nation develops. He cites President Franklin Roosevelt as a President who displayed the public and political skills to do just that and he believes that President Ronald Reagan "touched a piece" of the latent idealism he detects in the new generation coming to political power in America.

"If you listen to the music in your country as well as mine" he says. "If you listen to the lyrics of U2 out of Ireland, of Bruce Springsteen, listen to what these kids say, go to a concert and watch U2 stand up before 30,000 kids and speak about Martin and John. . . there is a message to the music again. I don't want to overstate it but it's there. I think one of the reasons the fundamentalist movement took root among young people was because of their desire to want to belong."

This week Senator Biden formally sets out on the long journey which he believes will give him the chance to marshall these forces and create out of the pressing economic and social problems which America faces not disaster, but opportunity.

Alfonsin takes labour troubles to Europe

BY TIM COONE IN BUENOS AIRES

PRESIDENT Raul Alfonsin of Argentina was due to arrive in Switzerland last night to address the annual meeting of the International Labour Organisation.

The high-powered nature of his delegation, however, indicates that substantive talks are likely on issues such as Argentina's foreign debt, disarmament and the Falkland Islands.

Mr Alfonsin was hoping to be able to present to the ILO an image of greatly improved labour relations in Argentina, and the realisation of a social contract

The Government has come under sharp attack from Argentine unions for the continued existence of repressive labour legislation introduced during the military juntas of 1976-83, and the ILO has echoed these criticisms.

New labour legislation, to be introduced to Congress on June 17, is intended to return the control of welfare funds to the unions, re-introduce free collective bargaining and to cancel trade unions' debts which resulted from the intervention by the armed forces after the 1976 military coup.

Even so, the powerful General Confederation of Workers is considering a public attack on Mr Alfonsin's economic and labour policy during the ILO meeting, which could embarrass him.

On the debt issue, flight of capital from Argentina amounts to about half of its foreign debt of $54bn. About $2bn of the flown capital is estimated to be deposited in Swiss banks, which in turn hold about $2bn outstanding loans to Argentina and have built up large reserves against possible losses on the debt. They could be potential beneficiaries of Argentina's recently announced debt capitalisation scheme.

Guerrillas killed in Colombia

MILITARY authorities in Colombia said yesterday Government troops had killed 16 left-wing guerrillas in three provinces, Reuter reports from Bogota.

They said troops also wounded 16 rebels in weekend fighting with guerrillas of a grouping of three left-wing forces, ading that a Government helicopter was damaged by guerrilla artillery fire in the south western province of Cauca.

WORLD TRADE NEWS

Fibres setback for Akzo in Du Pont battle

BY LAURA RAUN IN AMSTERDAM

AKZO, the Dutch chemicals company, has suffered a potentially serious setback in its super-fibre battle against Du Pont, the US chemicals group, with a High Court decision in London favouring Du Pont.

The High Court ruled that Akzo had infringed a Du Pont patent for the production of KEVLAR, a super-strong and lightweight aramid fibre used in tyres and aircraft among other products.

The judge ordered the two companies to return within three weeks with an agreement in line with his decision, presumably forbidding Akzo to sell its TWARON aramid fibre in Britain, although no such sanctions were spelled out in the judgment.

Akzo will decide whether to appeal against last week's high court ruling after the forthcoming negotiations.

Britain is considered the second most important country for aramid fibres after the US, with the worldwide market expected to climb to $1bn a year. An Akzo spokesman said yesterday that it was not clear whether the Dutch company must stop exporting TWARON or stop selling to clients who use the fibre in products sold in Britain because the judge upheld only one of Du Pont's patent claims.

Moreover, a second, separate, patent suit over aramid fibres is pending in the High Court with a judgment expected in December. In that case, Akzo is suing Du Pont for alleged infringement of a solvent patent.

Akzo and Du Pont are waging legal battles in about 10 countries in an effort to win recognition of their own patents and forbid violations by the rival. The companies have been battling for nearly 10 years over the lucrative fibres, which are heat resistant and believed to hold great promise in high-technology industries such as aerospace and telecommunications.

Besides clashing in the courts, the competitors also are waging a trade war. On Akzo's behalf the European Commission has accused the US of unfair discrimination against the Dutch company, under the free-trade rules of the General Agreement on Tariffs and Trade, for banning imports of TWARON.

In 1986 the US International Trade Commission forbid TWARON imports for five years on the grounds that the fibre infringed Du Pont's patents.

ECGD to offer Nigeria £500m short-term cover

BY PETER MONTAGNON, WORLD TRADE EDITOR

BRITAIN'S Export Credits Guarantee Department has set a figure of some £500m on the amount of short-term export credit cover it is prepared to offer to Nigeria after completion earlier this year of its Paris Club rescheduling.

However, further talks on Nigeria's actual requirement are needed before the new cover arrangements can take effect. These have been delayed because Nigeria has set as a first priority the completion of bilateral agreements with other official creditors on arrangements to implement the Paris Club rescheduling.

In March, the ECGD said it was prepared to consider a gradual restoration of cover providing Nigeria continued to win the support of the International Monetary Fund for its economic stabilisation programme and offered a satisfactory level of acceptance for ECGD-insured short-term trade arrears.

The new cover figure suggested by the ECGD would mean a substantial boost for business that has recently been running at a level of about £60m. The ECGD has also indicated its willingness to consider a special £100m credit line to cover projects considered essential to economic recovery.

EC hopeful on raising car sales to Japan

By Bob Vincent in Tokyo

THE European Community believes it has made progress in negotiations with Japanese Government officials which could lift sales of European cars in Japan.

"We started on motor cars with a request list of some 20 issues. On nine of these we received a yes answer, on eight, no, and on the others, wait and see." Mr Heinrich von Moltke, the EC director for industrial relations with third countries, said after a week of talks in Tokyo.

Long wrangle

The most positive is an agreement, in principle, that Japan will move from a system of individually inspecting foreign cars to accepting the manufacturers' system of inspection on a case-by-case study.

He hoped that EC car manufacturers would see this move as an opportunity to dent Japan's growing trade surplus with the Community.

The issue of car imports to Japan has been the subject of a protracted wrangle between the EC and Tokyo. This featured prominently in the discussions which the EC team, led by Mr von Moltke, had with Japanese officials.

The EC has only about 2 per cent of the Japanese car market, although EC manufacturers are having some success at the luxury end of the market.

However, a jump of one-third in Japanese car sales to Europe in the first quarter of this year has heightened European concern over the trade imbalance.

Gave ground

The Japanese also gave ground on the question of the inspection of imports of small quantities of cars—below 1,000 vehicles a year.

Inspection may in future be made on one car in 100 instead of one in 50, if warranted by favourable test results.

Mr von Moltke said that many issues still remained. More serious questions, such as Japan's car taxation, discouraged widespread marketing.

UK groups seek Chinese power orders

BY MAURICE SAMUELSON

A BRITISH consortium led by Trafalgar House and including GEC Turbines is making a strong push to build a hydro-electric power station which China is expected to order in the next 12 months and will include overseas contracts worth more than £200m.

There is also strong interest by Japanese and Italian companies in the 1,200 MW plant which would supply cheap peak-hour electricity in the Guangdong province and Hong Kong.

French and Brazilian companies have also shown interest but UK electricity officials think China may turn to Britain because the scheme resembles the highly successful Dinorwig power station in North Wales operated by the Central Electricity Generating Board.

The Chinese station could cost up to £400m, including the surface civil engineering work which the Chinese will carry out. The rest of the work, including supply and installation of the turbine generators and construction of the underground turbine hall—expected to cost more than £200m — would go overseas.

Like Dinorwig, it will be powered by water from a specially-built mountain reservoir whose contents can be rapidly dropped into underground turbines. It would reach full power in eight seconds whenever the electricity supply required rapid and massive reinforcement.

This is the function of the 1,800 Mw Dinorwig plant, which played an important role during this year's record cold weather in Britain. Previously, this role was carried out by expensive gas turbines.

China wishes would-be contractors to complete their proposals over the next three or four months.

Other members of the UK consortium include John Brown, Bovings, Keir, Merz and McLellan, Standard Chartered Bank and British Electricity International, the overseas consultancy arm of the Electricity Council and CEGB.

Bovings is a leading designer of hydro turbines, which are usually manufactured by the Chesterfield-based Markham company, part of Trafalgar House. GEC would be in charge of the electrical plant, and tunnelling would be carried out by John Brown, another Trafalgar House subsidiary. Keir would supply steel work, and Chartered Bank the financial package.

Offering an attractive financial package will be crucial in winning the contract.

Indonesia soon to reform copyright legislation

INDONESIA WILL soon ratify a copyright law protecting foreign films, music, books, computer software and other material, Ismail Saleh, the Justice Minister, said yesterday, Reuter reports from Jakarta.

He said after a meeting with President Suharto that the government would submit the bill to parliament this month and sign it by October.

Indonesia has been under strong pressure from overseas to reform its copyright legislation. "Piracy has been increasing remarkably," Mr Saleh said. It was discouraging creativity among Indonesian artists and inventors.

The Geneva-based International Federation of Phonographers and Videogram Producers earlier this year lodged a complaint with the European Community against Indonesian music piracy.

Indonesia is the world's leading exporter of pirated music cassettes, with annual overseas sales of 30m to 36m cassettes, according to the group.

The US earlier threatened to take away Indonesia's preferential trade status if Jakarta did not introduce a new copyright law by October.

Washington has been pressing for intellectual property protection for computer software in Indonesia. A State Department official said in Jakarta last year that US companies lost $206m through the pirating of technology and other intellectual property in Indonesia in 1985.

The new Indonesian law would provide maximum five-year jail terms and fines of up to $15,000 for violation of copyrights, patents and trademarks published abroad, the Justice Minister said.

BP in Delhi chemicals venture

By K. K. Sharma in New Delhi

BP Chemicals International of Britain and Indian Petrochemicals have signed an agreement for technical co-operation, production and marketing for polyethylene wire and cable products.

A statement issued in New Delhi said Indian Petrochemicals would use BP Chemicals technology to manufacture polyethylene compounds suitable for jacketing and insulation of telecommunication and power wires and cables. About 25,000 tonnes of the products would be made annually.

A compounding plant is to be built at Maharashtra gas cracker at a cost of nearly Rs 120m (£5.8m) and its first phase will be completed by 1989. This agreement will secure a place for Indian Petrochemicals in the rapidly developing market for wire and cable compounds in the country.

Indian Petrochemicals will also act as the exclusive agent in India for sales of BP Chemicals' polyolefins wire and cable compound.

BP Chemicals will act as exclusive agent for sales outside India of wire and cable compounds from the new plant.

Caribbean cruising to tourism record

Canute James, in Jamaica, reports on efforts to attract European visitors

THE END of the peak winter tourist season a fortnight ago has left Caribbean resort countries expecting record volumes of visitors and increased earnings this year. The region last year entertained 8.4m stayover tourists—the first time it had topped 8m in a year. This was six per cent above 1985 volumes, while cruise ships brought another 5m visitors.

Earnings for last year are estimated at $7.5bn and more is expected this year. The region's volume of arrivals in the first three months of this year was 13 per cent up on last year. But Caribbean hoteliers, while savouring increased occupancy levels — despite their rooms being among the most expensive in the world—are hard put to maintain the profitability of their properties.

Caribbean governments, many of which now see tourism as the only means of filling gaps in foreign earnings caused by depressed income from traditional commodity exports, have been promoting the region, mainly in North America and Europe.

The rapid growth in Caribbean tourism has been mainly the result of a steady performance in the US market which accounts for about 63 per cent of the region's tourists, and which grew last year by 8 per cent.

It was not only intensive promotion, however, which attracted more visitors to the islands. According to the Caribbean Tourism Research and Development Centre, based in Barbados, the growth in the number of US visitors "reflected continuing fears about terrorism in Europe and the Middle East."

The region has also benefited from fair performances by the economies of countries which make up the tourism market, and the advantage which stable exchange rates have given to long distance travel from Europe to dollar areas.

There is now also increased effort by Caribbean countries to exploit what is being accepted as a potentially lucrative European market. Tourist arrivals from Europe last year grew by about 11 per cent over 1985.

"Much of this increase is due to the UK market which sent over 20 per cent more tourists to the Caribbean," the centre reported. A new assault, say administrators of tourism in the region, is being planned with two countries in mind: one is West Germany, the other Japan.

One of the problems facing hoteliers is that the region has room for about three times its volume of visitors but cannot escape the seasonal nature of the market, which makes summer business poor.

But not all the resort countries gained from the increases of last year. While Puerto Rico, for example, recorded growth of 12 per cent, Jamaica 16.1 per cent and Grenada 10 per cent, Aruba experienced a 12.4 per cent decline. The volume of arrivals in Guadeloupe fell 6.2 per cent and in Trinidad and Tobago it was down 1 per cent.

The growth in tourism was supported by continued expansion in cruise ship business in 1986, continuing a trend which began in 1985.

The two biggest Caribbean cruise destinations, the Bahamas and the US Virgin Isands, reported increases of more than 30 per cent last year, while lower but significant increases were recorded by Antigua, Barbados, Grenada and Martinique.

Despite the increase in business, the region's hotels, among the most expensive in the world, are also among the least profitable because of high operating costs.

After a study comparing Caribbean and Pacific hotel costs with the worldwide average, the Research Centre reported that Caribbean hotels, when compared with a worldwide sample, display an "extremely low level of profitability as measured by net income before fixed charges."

Despite the increase in tourist arrivals in the Caribbean in 1986, room occupancy rates were generally lower than in 1985. The study indicated that Caribbean hotels experienced low profitability despite registering revenues about a third higher than the worldwide average.

Average costs per available room for food and beverage in the Caribbean are 40 per cent higher than the average for the world. The centre explained, however, that the profitability of Caribbean hotels was affected by the "seasonality" of tourism, which meant that occupancy rates were high in the winter, but low in the summer.

APPOINTMENTS

Hill Samuel makes changes

Mr Richard Wales is appointed managing director of HILL SAMUEL INVESTMENT SERVICES GROUP. He will have overall responsibility for financial control, Hill Samuel Life Assurance, Hill Samuel Unit Trust Managers, Hill Samuel Personal Finance and Universal Credit. Mr Derek Fitch also joins the board and becomes managing director, Hill Samuel Personal Finance and Universal Credit. Mr Geoff McEnery is appointed to the HSISG board and executive committee. He will continue to be chief executive of HSISG (Asia) and be responsible for the division's operations in Hong Kong and South East Asia.

Mr Brian Quick is appointed chairman of Hill Samuel Investment Services International. He will work for both HSISG and Hill Samuel and Co and provide assistance in international development and special projects. Until recently he was managing director of Hill Samuel and Co. Mr David Pritchard is made HSIS chief executive with responsibility for direct and intermediary sales, sales administration and training.

Mr Jim Fairbairn becomes sales director, Hill Samuel Investment Services. Mr David Stewart has been appointed regional director, south western division.

Mr Jeremy Heptinstall has been appointed regional director, northern division; Mr Norman Leask a director, HSPAS, responsible for the London division; Mr John Featherstone a director, HSPAS, responsible for the south and western division; and Mr John Sayers a director, HSPAS, responsible for the Midlands and north division.

★

The QUARTO GROUP INC has appointed Mr Michael Mousley as chief financial officer. He joins from Deloitte Haskins and Sells' corporate finance department.

★

Mr John Skelton has become a partner in MACFARLANES, which he joins from Withers, where he was a partner.

★

WILTSHIER CONSTRUCTION has appointed Mr Brian Skull as managing director. He was director responsible for all work carried out in the London area by French Kier.

★

NETWORK SYSTEMS' new UK managing director is Mr Malcolm Hopping. He joins from Storage Technology Corp where he was sales and marketing director.

★

SHANDWICK has appointed Mr Charles Jones as president and chief executive officer of Shandwick North America Inc. He is managing director of First Funding Corporation which is based in Stamford, Connecticut, and was previously president of financial consultants, Alexander Banker and Jones. First Funding Corp is Shandwick's investment banker.

★

Mr Patrick Kingsmill has been appointed to the main board of the PST GROUP as financial director, and Mr Richard Holman is joining as group financial controller.

★

Contracts director of SGB, Mr Bryan McCann, has been appointed deputy managing director.

★

Mr Peter Goold has been appointed joint managing director of WHITECROFT, sharing the post with Mr Tom Weatherby who remains chairman. Mr Graham M'Cardell, as finance director, now has full responsibility for group finance.

★

WILCOMATIC GROUP car wash marketer, has appointed Mr Steven Phillips as managing director of its new Wilcomatic Conveyor Wash System.

★

ANDAMAN RESOURCES, which is involved in mineral exploration in Northern Ireland, Ireland and Spain, has appointed Mr John Goodger to the board. He is a director of Cambridge Capital. Mr Peter Curistan, a director of Andaman, becomes company secretary.

★

Mr Philip Page has been made a director of MARSH AND McLENNAN GROUP ASSOCIATES.

★

CONTROL SECURITIES has appointed Mr John Hewitt as finance director and company secretary. He joins from Benchmark Group where he was group company secretary and also lending director of Benchmark Trust, its banking subsidiary.

★

Mr T. J. Lowe, technical director of London Buses, has been appointed chief E&M engineer by KENNEDY HENDERSON.

★

Mr Arnold Smith has become assistant director of SRI's Cambridge Computer Science Research Centre. He joins from Schlumberger Cambridge Research, where he was head of computing technology. Mr Charles Stancomb has been appointed director of SRI's Business Intelligence Centre in Europe. He was European marketing director of Data Resources Inc. Mr Pat Healey has joined SRI's Management Synthems Centre in Croydon as a consultant, specialising in distribution and transportation. He joins from Schlumberger in Rosharon, Texas, where he was distribution and customer service manager.

★

RADIO RENTALS has appointed Mr Brian Smith as financial director. He succeeds Mr Paul Stevens who has become systems director, a new post. Mr Smith was group finance director of Dana Europe.

★

THE SOCIETY OF COMPANY AND COMMERCIAL ACCOUNTANTS has elected as president Mr R. P. Spooner; and as vice-president Mr D. E. Evans.

★

CENTURY OILS GROUP has appointed to the board Mr A. E. Ware, Century Oils UK operations director, and Mr H. A. Mayor III, president of the group's US company.

★

Mr Bernard Fisher has been named as ANSA SOFTWARE'S first European managing director. He joins from Ashton-Tate where he was managing director of its UK operation.

★

Mr Bernard Rozier, Nationwide Building Society's general manager responsible for housing, has become president of the CHARTERED BUILDING SOCIETIES INSTITUTE.

★

TAYLOR YOUNG INVESTMENT MANAGEMENT has appointed as directors, Mr Brian L. Murgatroyd and Mr Richard D. Waring. Mr Murgatroyd and Mr Waring are directors of Trycourt Financial Holdings, Derby Trust and Brycourt Unit Trust Management. Mr Murgatroyd is also a director of Terra Nova Insurance.

★

Mr David Webb has been appointed a director of GRANVILLE INVESTMENT MANAGEMENT.

★

One of the youngest directors to be appointed in the whole of the Building Society movement has joined the board of the BARNSLEY BUILDING SOCIETY. Aged 34, Mr David A. Roebuck became general manager of the society three years ago.

★

AETNA INTERNATIONAL (UK) has appointed Mr Rod Duncan as unit trust sales director. He joins from County Unit Trusts where he was a director responsible for business development and sales. Mr Tom Heron has been appointed company secretary of AEtna International (UK). He replaces Mr Peter Walker who is now director of administration for AEtna's offshore companies and managing director of the Tyndall named administration company, shortly to be named AEtna International Managers (Guernsey). Mr Heron was company secretary/financial director of Kurvers International. Mr Richard Overton becomes managing director of AEtna Multinational Asset Management. He was a director of Midland Montagu Fund Managers.

★

Mr Nigel Casson has been promoted to finance director of TUNSTALL GROUP. He joined Tunstall Telecom as finance director in August 1985.

★

Mr Tom J. Gibson has been appointed chief executive officer for the UK of THE BRITISH CAR AUCTION GROUP. He joined British Car Auctions Ltd as managing director in June 1984 and was appointed a main board director in January 1985.

★

Mr Brian Garner has been appointed to the main board of BRENT CHEMICALS INTERNATIONAL. He is chairman of the metal finishing division.

★

Mr Roger Cook has joined the board of GIBBS HARTLEY COOPER the Lloyd's Insurance Brokers, with special responsibilities for developing international, construction and political risk business. Mr Christopher Waite has joined as a director of the international division and Miss Gina Fitzgerald joins as a director of the political risks division. All three were previously employed by Citicorp Insurance Brokers.

★

From June 1 the boards of C. E. HEATH (AVIATION) and C. E. HEATH (AVIATION REINSURANCE BROKING) have been reconstituted as follows: At C. E. Heath (Aviation) Mr C. J. T. Stewart is chairman, Mr M. H. Hughes, managing director, Mr A. R. Aubrey, Mr P. K. Boyes, Mr A. R. Bryant, Mr G. M. Chichester, Mr M. J. Jerome, Mr R. F. Lyes, Mr R. P. Marsh, Mr R. J. Micklewright, Mr J. S. Perry, Mr T. J. Poole, and Mr N. W. Weyman, directors.

The C. E. Heath (Aviation Reinsurance Broking) board is as follows: Mr C. J. T. Stewart, chairman, Mr M. H. Hughes, managing director, Mr P. K. Boyes, Mr P. J. Loan, Mr T. Howard, Mr J. S. Perry, Mr M. J. Jerome and Mr T. S. Poole, directors.

★

Mr Austin Morrell has been appointed sales director — UK, ISC SYSTEMS. He was sales manager.

★

STEEL BURRILL JONES has appointed Mr B. J. Bell and Mr C. R. S. Birrell as directors.

★

SIMCON, Combustion Engineering's specialist in process automation, has appointed Mr Jeremy Tyrrell to head the UK operation. He is vice president of marketing for Simcon Inc.

★

FJC LILLEY has appointed Mr Jim McNeillage as group financial controller. He joins from Distillers where he was group treasurer.

★

Two senior executives of BRIXTON ESTATE have been appointed assistant directors: Mr Michael Spurr, (property); and Mr Steven J. Owen (finance).

★

Mr R. P. Highmore, Mrs R. W. T. Moorhead and Mr M. J. Higginson will become partners of RADCLIFFES & CO on July 1.

TECHNOLOGY

Why ideas flow slowly from the realm of defence

David Fishlock looks at the commercial worth of heavy British spending on military research

FAIREY ENGINEERING, in 1972, licensed a quick bridge-building technology developed by Ministry of Defence scientists. It proved a world-beater, selling to 33 countries and earning Fairey two Queen's Awards for exporting.

By 1976, royalties paid to the Ministry exceeded research and development costs. Today they exceed £5m — more than any other Defence Ministry invention has earned.

Now Defence Ministry scientists are thinking of switching this technology from weldable light alloy to a Meccano-like system of carbon fibre composite structures. The target is to cut costs to one fifth of what aerospace companies are willing to pay for such composites, while sacrificing only 10 per cent in engineering performance. It will take at least 10 years to prove a saleable system, they say.

They asked Fairey to participate, but Fairey said no. "Their attitude was, you're doing it so well and we're getting it free," says Mr Colin Evans, deputy director of the Royal Armaments Research and Development Establishment (RARDE), whose laboratories at Christchurch develop the army's bridging systems.

Ministry scientists believe the experience with Fairey encapsulates much of the underlying cause of animosity over the size of Britain's defence R and D budget. To them, Fairey seems typical of thousands of British engineering companies which are heavily dependent on Defence Ministry R and D, but have little stomach for the financial risks of doing it at their own expense.

This year, defence is expected to account for 55 per cent of all government-funded R and D in Britain. This annoys the academic community, which seems to have scant sympathy with defence objectives. For example, graduates often stipulate "no defence work" on job application forms, says Dr Cyril Hilsum, GEC's research director and a former MoD scientist.

Academics see the money spent on defence R and D as public cash which they could do with to keep their work internationally competitive as the cost of civil-sector research tools soar. This year, of a total British defence R and D budget of £2.75bn, about £400m will be devoted to the underlying science, more than the whole budget of the Science and Engineering Research Council, which underpins university research in the physical sciences.

The defence industry, however, has no doubt that Britain must continue to spend heavily on defence R and D to sustain both its own systems and growing export earnings, forecast to rise by 70 per cent this year to about £5bn. But others suggest the price Britain is paying for these earnings is high in terms of R and D compared with other high technologies with good export records, such as pharmaceuticals. Mr Charles Reece, ICI's research director, has increasingly questioned whether, by normal commercial criteria, Britain's defence industry really pays its way.

Some critics argue that too much Defence Ministry-funded R and D is being exploited by overseas rather than UK companies.

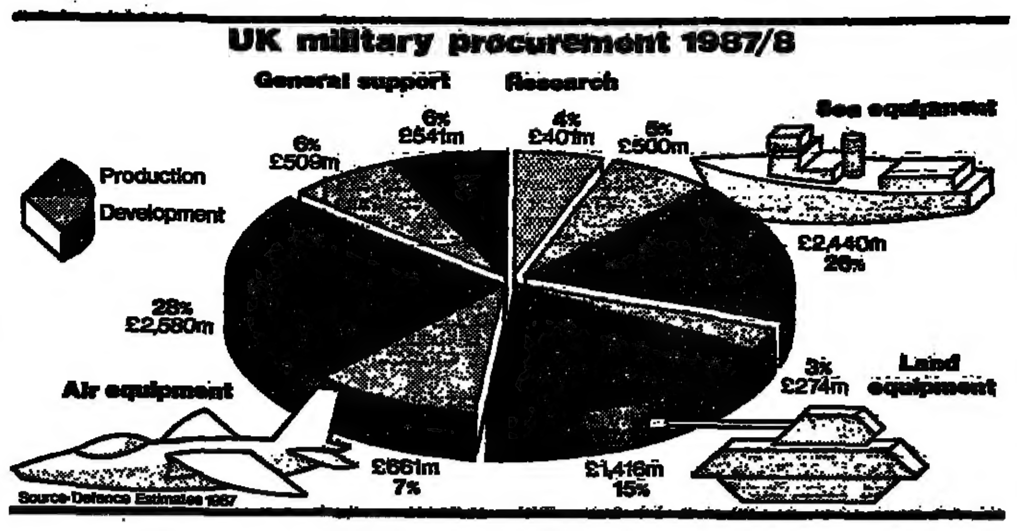
The ministry's growing concern was expressed in last month's defence estimates, which said the Government "shares the underlying concern of those who fear that necessary investment in R and D may crowd out valuable investment in the civil sector."

Mr Reece is chairman of a working party, set up in March by the Cabinet Office's technology advisers, to investigate the defence R and D budget and how it might contribute more fruitfully to the economy. The Advisory Council on Applied Research and Development (Acard) expects to report in the autumn of next year. Mr Reece expects hostility from UK companies heavily dependent on MoD funds for R and D, but he believes his team must probe the commercial case more deeply than has been the case with MoD research programmes.

All told, Defence Ministry research establishments are spending about £600m annually in-house. During the 1980s, the MoD has made major efforts to expedite transfer of technology into British industry.

During the same period, its research establishments have been reorganised. They now number five instead of 12 and the Royal Armaments and the Royal Signals and Radar establishments (RARDE and RSRE) are in the vanguard of technology transfer experiments. For four years, until retirement last December, the man in control was Sir Colin Fielding and he has since become a member of Acard.

Sir Colin points out that the review is aimed at not just the 15 primary defence contractors but the MoD's 10,000 manufacturing sub-contractors, many of which do no R and D of their own. Yet at the subsystem level it is becoming increasingly difficult to distinguish between civil and military technology and capability, for example in advanced electronics and information technology.



According to him the central issue is how to get world-class military research centres, like RARDE and RSRE, to communicate freely with an industrial base which is neither very research-conscious nor technologically sophisticated.

Many companies, he says, would like to use defence technology but simply do not know how: All too often they fail to understand that it never comes readymade, but needs what he calls "added-value research" to tune it for a particular civil market. "Added-value research is time-consuming, needs a lot of luck as well as money and no-one has yet discovered a simple formula for success."

The RSRE, based at Malvern in Worcestershire, has been one of Britain's most fertile research centres for many years. This year it shared two Queen's Awards for innovation with industrial partners, both GEC subsidiaries.

It has also suffered the frustration of seeing a major invention in low-power liquid crystal displays, made in the 1970s, picked up and exploited worldwide by Japan. The MoD has no use for small displays and it was left to Japanese companies to show Britain how they could be mass-produced cheaply for consumer products.

"Almost anything you touch in the electronics sector we've been involved with in the past 20 years," asserts Mr Brian Collins, RSRE's deputy director responsible for applied physics. He says all the technical directors of the leading UK electronics companies visit RSRE at least once a year. But these companies, far from wishing to boast about their associations with such a laboratory, "would rather avoid talking about it if possible," he says.

Mr Nigel Hughes, RSRE's director, says wryly that frequent press references to a "top secret laboratory" scare off potential collaborators.

Nevertheless, RSRE has signed 25 confidential agreements with industry and persuaded 35 British firms to second researchers to Royal Signals laboratories. Mr Collins believes this is a promising way to improve technology transfer.

But Mr John Fairclough, the Government's chief scientific adviser and a critic of the high proportion of British research funded by the MoD, says he would be more impressed if Defence Ministry laboratories were seconding staff to industry. In fact, defence scientists —except for a few at the top— have strongly resisted efforts to draft them into industry.

However, defence establishments are experimenting with several initiatives for collaborating more closely with companies beyond MoD requirements. All are being underwritten to some extent by the ministry.

One example, begun two summers ago, is the joint initiative between MoD and a private-sector "club" of about 200 organisations, each of which pays about £1,000 a year for access to defence technology. This club, called Defence Technology Enterprises, based in Milton Keynes, allocates people—called "ferrets"—to hunt out ideas from MoD laboratories, where the staff "give it a fair wind."

The club has a portfolio of 400 items, says Mr Bernard Herdon, managing director, of which about 100 are being investigated "very actively." In 15 cases a licence has been granted or commercial terms agreed. Areas include advanced composite materials, the use of lasers, industrial sensors and computer software.

A different kind of collaboration is the joint venture between an establishment and a private company. Cummins International, the US diesel engine manufacturer, which wants to get into the international market for tank engines.

The Royal Armament's Chertsey laboratory in Surrey has first-class facilities for tank testing. Last July, Cummins and the ministry signed a contract in which the company will provide engines valued at about £250,000 in return for a RARDE test programme of similar worth.

Mr Colin Evans, director at Chertsey, says the main target of tank technology outside the MoD is defence companies which might exploit it for exports. But he thinks there is some scope for finding civil markets. One example is electric propulsion for the tank turret, combining speed and precision with a minimal drain on power. Mr Evans believes this technology could help improve the performance of electric vehicles, if only RARDE could find a partner.

Dr Nigel Hughes, RSRE's director, points out that although some MoD establishments—including his own—have been successfully transferring technology to industry for decades, they have never before addressed the question of choosing between different research options on grounds of whether one might yield a bigger civil spin-off.

One plan, now well advanced is to copy the example of university science parks and turn an under-utilised site about three miles from his main laboratories at Malvern into a "nursery" for companies willing to do "added-value research" on RSRE technology.

UK science learns the hard sell, Page 25

Television begins to enlarge its image

AS TELEVISION sweeps aside traditional processes for displaying or recording pictures—becoming the universal standard to which other image systems must relate—one obstacle to this relentless progress remains. Small may be beautiful, but a world brought up on large cinema screens still has reservations about watching Tom Thumb-sized actors.

There are good optical reasons for viewers preferring larger pictures. Cameras record the subject from a position which sees the perspective—the relative position and size of objects. In an ideal world, the audience should replicate this viewpoint in order to experience the perspective in a similar way. But to do this with an average television set would mean moving the viewing distance uncomfortably close to the screen.

The alternative is, of course, a much bigger screen. And for business applications, where television viewing by large groups is often required, the need for bigger screens is self-evident. But larger sets are difficult and costly to manufacture. The cathode ray tubes

FILM AND VIDEO

by John Chittock

(CRTs) contain a vacuum and larger screens require stronger glass to withstand atmospheric pressure and physical damage (indeed an implosion can occur).

The industry's answer has been the development of television projection systems—using lenses to throw enlarged pictures from the television tube on to a screen. For such systems to achieve satisfactory standards of brightness, however, the small tube must provide exceptional light output. One popular way of doing this is to use three CRTs instead of one. Colour images are separated into red, green and blue, one to each tube, and re-combined in exact registration on projection.

Three-tube systems are effectively multiplying the available light output. By using special optics—even water coolants so that the tubes can be "driven" harder—results can be very acceptable.

High gain screens are sometimes used with such systems; that is, screens which reflect a maximum amount of light in a narrow forward arc, but at the expense of brightness at more oblique audience positions.

Numerous three-tube systems now compete for the television or video projector market—such as Barco, Hi-Beam and Sony for professional users and Mitsubishi, Philips and Panasonic, with back-projection consoles, for consumer or commercial situations. Prices range from £3,000 to £20,000 (the latter with higher resolution for displaying computer graphics).

Even more sophisticated systems are available with price tags running into six figures. The most widely used, popular in the equipment rental business, is the General Electric (GE) light valve system. Like the even more expensive Swiss-made Eidophor (the Rolls-Royce of video projectors), the GE relies on the modulation of a powerful light source by interposing a light valve in its path. The light valve contains a volatile fluid which is scanned by an electron gun fed by the television signal. The modulated electronics cause variable deformations in the surface of the fluid, which in turn refract the light and regulate its output as it scans the screen.

The GE and the Eidophor can yield remarkable pictures on cinema-size screens. Film buffs may still find fault with the quality, especially as standard television pictures have neither the resolution nor the contrast range of film. But for most purposes when a hire charge of £1,000 a day or more can be justified, light valve projectors offer large audiences very acceptable pictures.

In search of better quality, UK-based Dwight Cavendish has developed a projector which uses laser illumination. In this, the television signal modulates three lasers—red, green and blue—which fall on to the screen via a rotating polygon. That sweeps each laser beam across the screen in the same configuration as electron scanning in a television tube.

The advantages claimed for laser projection are sharper pictures right into the corners of the screen, higher fidelity colour and the elimination of focusing—the parallel laser beams require no optical system to form image points.

At present, laser projection cannot match the GE and Eidophor for screen brightness. So the choice is sometimes between sharper pictures and brighter ones—a horses-for-courses situation, which is why one of Britain's leading equipment hire companies, Samuelson, offers customers a choice. It also offers for rent double-stacked Barco projectors which, accurately registered, can double screen brightness.

The electronics industry is working vigorously to develop better systems. A number of Japanese companies, in particular, are close to introducing video projectors in which the key component is a liquid crystal display (LCD). Although LCDs cannot yet provide the large television screen, which hangs on the living room wall like a picture, they can be employed as light valves—interposed between a powerful light source to modulate it, rather like the Eidophor or GE. Prototypes now exist and may become available commercially in the next 12 months.

Significant growth in the video projector market is expected for computer displays. But if video projection developments can begin to equal the quality of film projection especially when fed by high definition television, the most dramatic changes could occur in the cinema. Multi-screen complexes using only video can operate from a small control room, with one operator, receiving their movies by satellite or microwave link instead of by delivery van. Cinema chains will then no longer require multiple copies of expensive 35 mm prints.

It will happen. The only question is when?

Cut in industry's costs eases inflation pressure

BY JANET BUSH

THE GOVERNMENT'S prediction that inflation will end this year below 4 per cent was given some support by figures yesterday showing a fall in manufacturing industry's input prices last month and stable factory gate prices.

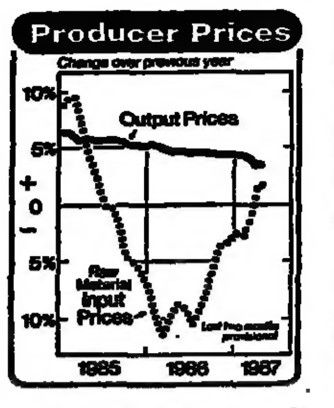
The Department of Trade and Industry (DTI) said its index of fuel and raw materials costs fell by 0.2 per cent in May compared with the previous month following April's rise of 0.4 per cent compared with March.

The drop was because of the strength of the pound against other leading currencies and weaker energy prices. There was also some seasonal effect – on the DTI's seasonally adjusted index, prices rose by 0.2 per cent between April and May.

Manufacturers' factory gate prices rose 0.3 per cent in May compared with the previous month. This was smaller than the 0.5 per cent increase between March and April.

The rise in output prices has been slowing gradually for some months, partly reflecting falls in input prices. In January the increase in the price index for home sales of manufactured products measured over a 12-month period was 4.3 per cent. In both April and May the 12-month increase was 3.5 per cent.

Taken together, the figures confirm inflationary pressures in the economy are quite subdued, and the apparent stability of output prices at a time of rising productivity bodes well for manufacturing industry's competitiveness in export markets.



Respondents to the Confederation of British Industry's May Monthly Trends Enquiry reported that average prices were expected to remain moderate over the next four months.

The Retail Prices Index for May is due to be published on Friday, the day after the UK general election. The annual inflation rate is expected to have fallen to about 3.8 per cent from 4.2 per cent in April as the effect of mortgage rate cuts feeds through.

Mr Nigel Lawson, the Chancellor of the Exchequer, last month revised his budget prediction that inflation would peak at just above 4.5 per cent in the summer, before falling back to about 4 per cent by the end of the year.

Now he expects that the peak will not exceed 4.5 per cent and end-year inflation should be below 4 per cent.

Jobless trend stabilising, Page 12

Consumer credit surge continues

BY RALPH ATKINS

THE SURGE in consumer credit showed no sign of abating in April, according to figures published by the Department of Trade and Industry yesterday.

A total of £3.1bn in new credit was provided during the month by finance houses, retailers and credit card companies. This is a slight fall on March's figure of £3.2bn, but the department believes the trend is still upwards.

Total credit advanced in the three months from February to April was 14 per cent higher than in the previous three months.

The surge reflects rising real incomes which have boosted retail sales. Consumers are also taking out credit in anticipation of a further increase in their spending power from tax cuts announced in the budget and falling interest rates.

The trend rise is expected to continue over the next few months – unless a change in government leads to higher interest rates and increased taxes.

The surge in consumer credit is a matter of official concern, not so much because of any inflationary implications but on prudential grounds. The Bank of England's latest bulletin expressed worry about some borrowers becoming overextended.

April's figures were distorted by the late Easter – a factor not accounted for in the seasonal adjustments the department makes. Easter fell in March in 1986, and lower credit advances were recorded then. The effect was noted when Easter fell in April this year.

At the end of April credit outstanding was £25.3m compared with £24.8bn at the end of March.

Lending by finance houses increased by 20 per cent between the three months to April and the previous three months. Advances on bank credit cards increased by 14 per cent. Retailers advanced 1 per cent more.

BBC TV in Europe 'live' by satellite

By Raymond Snoddy

THE BBC has begun delivering eight hours a day of BBC-1 programmes live to Europe by satellite for the first time.

The service is being transmitted by the Intelsat V satellite to the Hybridnet cable system in Denmark which is run by KTAS, the Danish telephone organisation.

The possibility of cable television networks in Norway, Sweden and West Germany also taking the BBC service from the satellite is being examined.

The satellite time is being paid for by KTAS. BBC Enterprises, the commercial arm of the BBC, receives a fee for each subscriber who can receive the service.

By the end of the year Hybridnet expects about 150,000 homes to be connected to the cable system.

The main barrier standing in the way of satellite distribution to other European countries is negotiations over programme rights. When a bought-in film is showing on BBC-1, for example, which cannot be relayed to Denmark, the intention is to fill in the gap with programmes from BBC-2.

Denmark is the fourth European country to carry live BBC transmissions on cable networks. However, in the case of Belgium, the Netherlands and Paris Cable in the French capital the programmes have in the past been picked up from transmitters in the south of England and re-broadcast on cable networks.

Some BBC programmes are also distributed all over Western Europe as part of the schedules of Super Channel, the British satellite channel set up by British ITV companies and the Virgin Group.

Air and sea traffic hit by civil service strike

BY PHILIP BASSETT, LABOUR EDITOR

STRIKE ACTION by civil servants in the UK yesterday closed unemployment and social security offices, delayed export cargoes trying to leave through seaports and disrupted half of Britain's domestic air traffic.

The Government claimed last night, however, that the number of civil servants taking part in the first of two days of national strikes over pay was sharply down on the number who had joined earlier regional stoppages.

Leaders of the unions involved – the Civil and Public Services Association and the Society of Civil and Public Servants – disagreed sharply with the Government over support for the dispute. They claimed that about 75 per cent of their 220,000 members had taken part in the strike.

The Treasury said the total was much lower, saying that only about 97,500, or roughly 45 per cent of the unions' memberships, had taken part.

On the Treasury's figures, this is close to 20 per cent less than the 120,000 who had joined earlier regional strikes as part of the unions' campaign of industrial action against the Government's pay offer averaging 4.6 per cent.

Mr Kenneth Clarke, Paymaster General, said that the CPSA "must be under the impression there is a Labour Government, believing they can get money paid out on the eve of a general election."

Union leaders rejected the charge that their action was damaging Labour's electoral chances. Mr John Ellis, CPSA general secretary, said: "Our dispute is in every way an industrial dispute over pay and not a political strike," and Mr Leslie Christie, SCPS general secretary, said: "I do not accept that the fact that the Civil Service is in dispute with their employer, which is the current Government, is harmful to the Labour Party."

Union leaders believe that support for the action will be greater today as more members, unable to afford more than one day's strike, join the action, but Mr Ellis told a London rally that the unions' memberships were "not ready to come out on an indefinite strike. They cannot afford it."

Among the main effects of the strike were:

- The Civil Aviation Authority said that only half Britain's normal air traffic was flying because of action by air traffic control assistants although that ended last night. London's Heathrow airport was worst affected, and British Airways said many of its domestic services had been hit although intercontinental flights were unaffected.
- Cargo traffic at Dover and Harwich was delayed by action by Customs staff, and honesty boxes were installed for passengers to make payments on car ferries.
- More than 450 of 491 local welfare benefit offices were closed to the public, as were 512 unemployment benefit offices and 230 Jobcentres. Benefit computers were affected, which could hit postal delivery of payments. Fifteen union members at the Government's GCHQ communications centre in Cheltenham defied the union ban there by joining the strike and now face disciplinary action.

The unions said it was a good response and said: "We hope the Government will take note – and if not the present Government, then whoever is elected in June 11."

Lucas set to agree deal with Corrello

LUCAS ELECTRICAL, the loss-making motor components subsidiary of Lucas Industries, is close to a deal to sell a majority stake in its lighting division, employing 1,500 workers at Cannock, West Midlands, to Fausto Corrello, its 40-per-cent-owned Italian associate, Arthur Smith writes.

Talks are also well advanced with Magneti Marelli, a subsidiary of Fiat of Italy, which has emerged as front-runner to purchase a stake in Lucas's Birmingham-based starters and alternators operation which employs 1,700 people.

Lucas said talks were also continuing with other companies including Valéo of France, Bosch of West Germany and Nippondenso of Japan.

Lucas said that any deals would be aimed at seeking wider European markets.

Sir Godfrey Messervey, Lucas chairman, said in March while announcing group pre-tax profits of £40m for the six months to January 31 that any activities which could not be made profitable and internationally competitive would be put into joint ventures, sold, or in the last resort, closed.

The group made provisions of about £30m for planned closures, including the rundown, already announced, of its Birmingham headquarters, in its last full financial year to July 1986.

Fausto Corrello is a major supplier of car lights to Fiat and to Ford in West Germany. Corrello is thought to be looking for an expansion into UK manufacturing as part of an attack on European markets.

Lucas's Cannock factory supplies Austin Rover, Ford and Jaguar in the UK and exports direct to General Motors in the US. Its profitability has been hit by production problems attributed by Lucas to the introduction of new manufacturing methods and products.

The Lucas starters and alternators operation is three years into a five-year £15m investment programme, backed by a government grant.

Magneti Marelli has 26,000 employees at 60 manufacturing centres.

■ CRITICISM of safety standards was expressed by Mr Justice Sheen, chairman of the public inquiry into the Herald of Free Enterprise ferry disaster, who said he was surprised at the failure of the Transport Department to implement safety recommendations made after a previous ferry accident in 1982.

He told the inquiry: "I don't understand the attitude. I can understand the Department wanting to make sure that British ships do not fall behind international standards, but I cannot understand the reluctance to lead the field on safety."

■ SHAREHOLDERS in British Gas who miss today's 3pm deadline for payment of the second 45p instalment on their shares are likely to treated leniently and permitted to make a late payment.

■ EMPLOYEES in Rolls-Royce have extensively taken up the offer of shares in the recently privatised aero engine company.

The high level of take-up is likely to be taken by the Conservative Party as further evidence of the popularity among employees of offering them shares for sale in their own enterprises.

■ THE National Union of Mineworkers' policy making annual conference, which meets next month, seems set to oppose every element of British Coal's emerging strategy to change working practices, production incentive payments and shift patterns.

The NUM is worried that moves toward multi skilling among craftsmen will lead to job losses. The conference will also debate a call for the union to oppose the contracting out of any tasks that could be done by NUM members.

■ TURNER & NEWALL, which won control of the AE engineering group after a protracted bid battle last year, is pumping an extra £2.3m into two former AE subsidiaries for exports-based expansion.

■ HOPES that a survival plan for General Motors' troubled van plant at Luton will be agreed rose last night after trade unions and representatives from the joint venture company which plans to take over the plant had resumed negotiations.

Bankers' obligations 'override actions by overseas states'

BY RAYMOND HUGHES, LAW COURTS CORRESPONDENT

POLITICAL action by overseas governments should not be allowed to interfere with the obligations of bankers in the City of London, the High Court in London was told yesterday.

Mr Peter Cresswell QC said, "The writ of the United States does not run in this country". He was opening a claim by a Libyan bank for repayment of money locked in the London branch of Bankers Trust Company, a New York-based bank, as a result of the freeze imposed by President Ronald Reagan on Libyan assets in US banks around the world in January last year.

The case will involve the first examination by the courts of the extra-territorial powers claimed by the US and also of the workings of the Eurodollar market.

It has been brought by Libyan Arab Foreign Bank, which is wholly owned by the Libyan central bank. Its claim, with interest, amounts to about $300m.

Bankers Trust contends that it cannot repay the money without breaking US law.

Mr Cresswell told Mr Justice Staughton that, when the Reagan freeze was imposed, Libyan Arab Foreign Bank had a substantial dollar deposit account with Bankers Trust in London.

It was an essential feature of Bankers Trust's defence that all foreign currency deposits with banks in the City were repayable only in the country of the currency concerned.

The Libyan bank's case was that such deposits were governed by English law and that the banks' obligation was to repay in the City of London regardless of the currency in which the account was denominated.

Libyan Arab Foreign Bank is claiming $131m that was in the London account when the freeze bit and $161m which, it asserts, would have been in the account had Bankers Trust obeyed instructions for it to be transferred.

Mr Cresswell said that, knowing that the US Government was about to take action against Libyan assets, Bankers Trust so organised matters that money that should have been transferred from the Libyans' current account in New York was still there when the freeze came into effect.

He said that damages were also claimed for Bankers Trust's failure to honour payments instructions. The failure had meant that the Libyan bank had had to make the payments from resources outside the US.

There was a document in evidence that made it "absolutely plain" that Bankers Trust had acted on the instruction of the US Federal Reserve Bank and/or the US Treasury, Mr Cresswell said.

Libyan Arab Foreign Bank also alleged an "unauthorised and concealed" arrangement by which Bankers Trust reduced the amount of interest paid to the Libyan bank.

The hearing, expected to last four weeks, continues today.

Disciplinary action follows Liffe probe

BY STEPHEN FIDLER

AN INVESTIGATING panel of the London International Financial Futures Exchange has imposed penalties on about 12 individuals and firms in the most serious disciplinary breach yet discovered in the exchange's nearly five-year history.

The hearings were thought to centre on pre-agreed trades transacted on the exchange floor as part of a tax avoidance scheme. Under Liffe rules, all trades must be shown to the market and not agreed beforehand.

The exchange will publish the first of its disciplinary findings today, when it posts three notices on the floor. More serious penalties, involving possible suspensions of greater than seven days, must be referred to the exchange's Membership and Rules Committee, which meets later in the week.

Slightly more than half of those penalised are understood to be appealing against the panel's decisions to the Liffe board, which meets within the next two weeks. The findings will not be made public until after the board has considered the cases.

Among those under investigation was the UK arm of Cargill, the US commodity trading group, and Mr Keith Catchpole, a senior floor trader who left Cargill in January after the probe was announced.

There has been no involvement by the Bank of England, the Department of Trade and Industry or Inland Revenue in the investigation of possible rule breaches although the exchange will make the necessary papers available to them if required.

The disciplinary panel was headed by Mr David Burton, of S.G. Warburg, the marchant bank, who is deputy chairman of Liffe. Its other members were Mr Michael Phillip of Goldman Sachs and Mr Alistair Buchanan of Morgan Grenfell.

- Volume on Liffe averaged a record 60,098 futures and options contracts a day in May, 3.2 per cent up on April's figure. Total volume during the month was 1.14m contracts worth £386bn, just below April's record 1.16m, Alexander Nicoll writes.

Contracts based on long-term UK government bonds continued to dominate the exchange. In the first five months of 1987, 2.86m long gilt futures were traded, 267 per cent up on the same period of 1986. In the same period, the overall volume of the exchange expanded 91 per cent to 5.15m contracts.

Sharp to make photocopiers at Welsh plant

By Carla Rapoport in Tokyo and David Thomas in London

SHARP, the Japanese electronics group, is building a factory at Wrexham, Wales, to make photocopiers in Europe for the first time and also to boost the output of the products it already makes there.

The company wants to make photocopiers in Europe in order to avoid the 20 per cent anti-dumping duties recently imposed by the European Commission on Japanese copier exports to Europe.

Sharp is the latest of a number of Japanese companies to transfer production to Europe in order to get round the Commission's anti-dumping duties.

Sharp's £15.6m expansion plan, which will receive Welsh Office grants, will create 260 new jobs in Wrexham by the start of next year, bringing its workforce there to 900.

Sharp's business plan envisages employing 1,300 in Wrexham by 1991.

The company has added steadily to the product range made in Wrexham since it began making video-recorders there in 1985.

It is building a new factory, due to open in 1988, next to its existing one in order to cater for its latest expansion plans.

It aims to start producting photocopiers at the rate of 1,700 a month and eventually hopes to make its full range of photocopiers in Wrexham.

Monthly output of video-recorders will go up from 22,000 to 35,000; of microwave ovens from 16,500 to 25,000; and of electronic typewriters from 6,000 to 8,500.

Inland Revenue demand queried in High Court

FINANCIAL TIMES REPORTER

THE INLAND Revenue was accused in the High Court in London yesterday of demanding hundreds of millions of pounds it was not entitled to during the transition to a new system of taxing interest paid to investors.

The Woolwich Building Society, supported by the Leeds Permanent, claimed the Revenue was acting in an "arbitary, unjust and irrational" way in its introduction of a new method of collecting tax payable by building societies in respect of interest paid to depositors.

The Revenue's implementation of the 1986 Building Societies (Income Tax) Regulations resulted in the Woolwich being double-taxed to the tune of an extra £76m, Mr John Gardiner, QC, told Mr Justice Nolan.

The Leeds Permanent had "suffered damage of a similar amount."

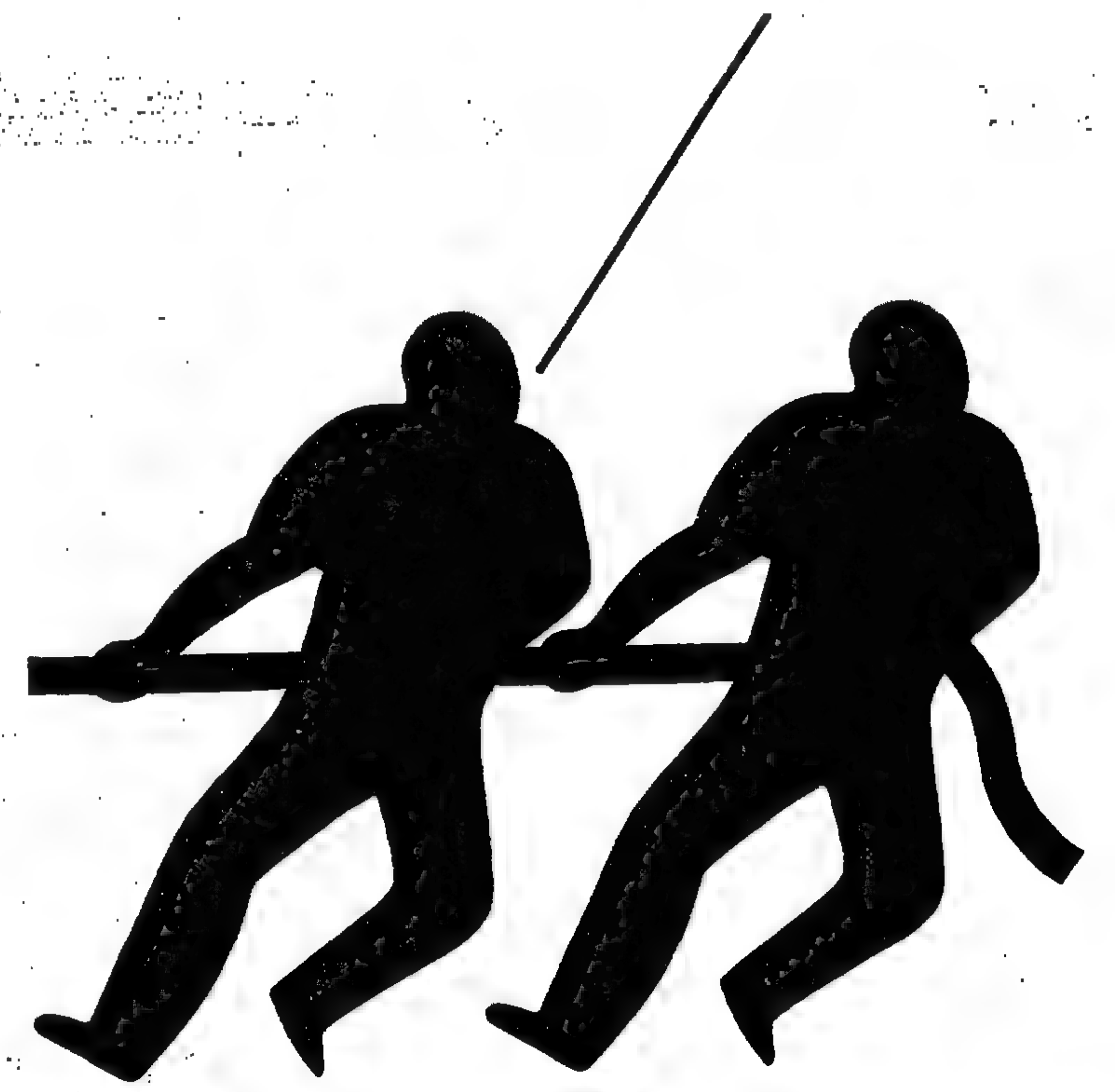
Mr Gardiner said: "Many other building societies also have an interest. Some hundreds of millions of pounds turn on this case – some hundreds of millions of pounds of additional, of double, taxation, not levied or imposed by Parliament, we say."

As far as the Woolwich was concerned, the effect was to measure the tax payable on interest paid during a year by reference to a period of 18 months.

The regulations, said Mr Gardiner, were introduced to change the system of taxing to one where interest paid was taxed on an "actual basis" rather than by reference to the previous year. Payments also became payable quarterly rather than annually.

The implementation of the new system had meant "double taxation for six months and five days" on the Woolwich, said Mr Gardiner.

The hearing continues today.



Rigid adherence to monetarism slackens

Janet Bush looks at a radical shift in the use of monetary aggregates as linch pins of economic policy since 1979, when Mrs Margaret Thatcher came to power as Prime Minister.

IN NOVEMBER 1979, then-UK Chancellor of the Exchequer Sir Geoffrey Howe began a speech to the House of Commons with a justification of that morning's decision to raise the Minimum Lending Rate to 17 per cent. The culprit was above-target growth in Sterling M3 money supply.

Last month, the Governor of the Bank of England elaborated, in a major speech, on the official view that a rigid adherence to money supply aggregates in the setting of policy was now wholly inappropriate.

In the intervening years, clearly, there has been a radical shift in attitudes towards the use of monetary aggregates as linch pins of policy, more often than not informed by pragmatism in the face of constantly missed growth targets and an ever more obscure relationship between the money supply and inflation.

The Bank of England has always appeared to recognise the limits of money supply targetry but has felt compelled to pay lip service to the rhetoric of monetarism emerging from the Treasury, particularly in the early years of Mrs Margaret Thatcher as Prime Minister.

The authorities have been through an uncomfortable period in which the key measure of broad money supply growth, Sterling M3, was first downgraded and then dropped as a target – uncomfortable because, in the eyes of the City of London there appeared to be nothing to take its place as a reference point in the framework on monetary policy.

Some discomfort has been removed with more obvious management of the exchange rate, particularly after the Louvre accord in February aimed at stabilising currencies.

Strenuous and detailed efforts by the Bank to analyse and explain the difficulties with broad money, most notably in the Governor's speech at Loughborough in the east Midlands last autumn when he talked at length about the effect of financial innovation on the money supply, have sought further to rid financial markets of this sense of unease.

The Bank's latest quarterly bulletin marked another stage in this explanatory process and the evolution of the money supply as an aid to policy-making moved on.

In a detailed analysis of the various qualities (and imperfections) of different measures of broad money supply, it concluded that "any choice of dividing line between those financial assets included in, and those excluded from, broad money is to a degree arbitrary, and is likely to be invalidated by developments in the financial system."

The Bank announced its intention to publish the counterparts of two alternative measures of broad money supply, named M4 and M5, which it intends to analyse along with Sterling M3 (now renamed simply M3).

Both M4 and M5 have the advantage of lumping building societies together with other monetary sector institutions, reflecting the now thoroughly blurred distinctions between them which had rendered the old Sterling M3 measure, which excluded societies, so anachronistic.

The authorities appear to give no special weight to any of the three aggregates and seem to be keen to ensure no one measure becomes more fashionable as a tool of market analysis than any other.

The intention is to educate financial markets and City of London analysts into "de hooking" from a single-minded adherence to M3 without "hooking" on to any other measure. This hope may be in vain. One London-based securities house is already advocating a switch of focus to M5 and has suggested a target band for its growth.

The shift towards regarding monetary aggregates as a useful source of information about trends in the economy rather than as indicators whose behaviour elicits an automatic policy response gives the authorities a much greater degree of flexibility.

This flexibility may also spread to the definition of funding the Public Sector Borrowing Requirement. The funding rule is currently based on M3, defined as the matching of public sector borrowing by the sale of public sector debt outside the monetary sector.

Debt purchases or sales by building societies do not figure in the M3 definition of funding but do in M4 and M5 where societies are counted as monetary sector institutions. This classification can make a dramatic difference.

In 1986-87, building societies were substantial net sellers of gilts amid uncertainty about the liquidity requirements of the new building societies act. Because societies are excluded from M3, this made no odds to funding. The PSBR was, in fact, underfunded by £400m.

However, under M4 and M5 definitions, these sales effectively funded the PSBR as gilts were transferred from the monetary sector to the non-bank private sector. Thus, on both these measures, the PSBR was overfunded by more than £4bn in 1986-87 (incidentally depressing growth of both aggregates).

In more normal years, such large discrepancies should not arise and anyway do not present an operational problem for the Bank which regards the funding rule primarily as presentational.

However, the Bank appears to recognise at least the untidiness of having a funding rule based on M3. It is likely to stick with the current rule for the time being but will then probably move to a more nebulous, general funding definition. The Bank feels a degree of obscurity on the funding definition is probably desirable.

Jobless trend to 'settle at high level'

By Charles Leadbeater, Labour Staff

UNEMPLOYMENT will continue to fall over the next year or so but will then stabilise at an historically high level, according to the Manpower Services Commission's unpublished draft corporate strategy till 1991.

Publication of the strategy, which was drawn up in April, has been delayed because of the general election on Thursday. It was due to be presented to Lord Young, Employment Secretary in the last Government, in May.

Both the Conservative and Labour parties have made manifesto commitments on training and employment measures which would lead to the plan being redrawn.

The draft plan predicts that employment growth will be predominantly in part-time jobs, temporary work and self-employment. It expects a further decline in the number of people out of work for more than a year. But it suggests the number of people out of work for more than five years will rise from its 1987 level of 246,000.

The commission, which administers the Government's employment programme, says that unemployment will stabilise at a high level after a slight fall. This projection is mirrored in its spending plans for the next four years.

The MSC expects it will need to maintain spending on the Restart programme of counselling for the long-term unemployed at around £52m in real terms between 1988 and 1991, after a rapid expansion this financial year.

The commission also foresees the need for an increase in spending on the Community Programme which provides temporary work for the long-term unemployed. Spending on the programme, which provides 300,000 places a year, will rise from £1.03bn this year, to £1.09bn in 1991. The plan indicates the Government may not be prepared to raise the average wage on the programme each year.

The commission also plans a major expansion in Job Clubs, which help groups of the unemployed search for jobs. For the first time the clubs will be managed by private agencies rather than government Job Centres.

Both the Enterprise Allowance Scheme, which helps unemployed workers set up their own businesses, and the Technical and Vocational Education Initiative, to promote vocational education in schools, will come to play more crucial roles in the MSC's strategy.

Lonrho's Seat UK subsidiary loses £4m in first year

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

THE LONRHO subsidiary which *imports Seat cars* from Spain to the UK suffered a £4.24m loss in its first year of trading on a turnover of £18.87m.

The company's managing director, Mr Doug Clare, resigned last week at a time when figures for the first half of the current financial year *would have* become available.

Lonrho said Mr Clare left for personal reasons but the indications are that Seat Concessionaires (UK), although making good headway with car sales, had not made fast enough financial progress to please Mr Tiny Rowland, Lonrho's founder and *chairman.*

The Seat UK accounts show Mr Clare's remuneration for the year to September 30 was £33,632, up from £30,747 for the previous 12 months.

The accounts reveal Seat UK had a paid-up capital of £3m and a £7.5m unsecured bank overdraft at end-September. *At that date* the company employed 65 people and its liabilities exceeded net assets by £1.22m.

Lonrho won the contract to import cars from Seat, the last leading European car producer not represented in Britain, in the summer of 1984 but the first vehicles did not go on sale until November the following year.

Mr Clare, who is 50 this month, spent 13 years with VAG (UK), the Lonrho subsidiary which imports Volkswagen and Audi vehicles to the UK, before winning the Seat job.

He recently said Seat UK's turnover in the current financial year would be about £38m and the company would be very close to financial breakeven.

Last year 5,900 cars were registered in the UK. Mr Clare predicted that the 1987 total would reach 10,000 and that the company would take 1 per cent of the UK new car market within three years.

A VAG (UK) director, Mr Guy Sinden, has taken over as acting chief executive of Seat (UK) while the search for Mr Clare's successor goes on.

Leyland plans closure of French truck unit

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

THE LEYLAND Trucks' subsidiary in France, which was excluded from the deal when the state-owned Rover Group sold Leyland and the Freight Rover van business to Daf of the Netherlands, is to close with the loss of all 70 jobs.

Leyland Vehicules Industriels (LVI), with its headquarters at Gonesse, south of Paris, built up a network of 32 dealers in France as a small but significant bridgehead in what was to have been a long battle to establish the UK-built vans and trucks in continental European markets.

But Daf did not want LVI because it already has its own, well-established subsidiary in France.

LVI has been selling about 200 heavy trucks and 500 Freight Rover Sherpa vans a year in France compared with Daf's registrations totalling 2,200 heavy trucks. Rover said staff at LVI had been told the operations would be scaled down and eventually closed.

Indications from France suggest that the closure will take less than a year. LVI dealers are taking no more orders – except for vehicles already in France – and the company is expected to cease trading by October.

Hi-tech property boost

BY PAUL CHEESERIGHT, PROPERTY CORRESPONDENT

SLOUGH ESTATES, the biggest industrial property company in the UK, has lifted the flagging high-tech property market west of London with the announcement of the largest single letting in the Thames valley.

It is to rent at £1.4m a year a 150,000 sq ft building to Digital Equipment Company at the Winnersh Triangle business park near Reading.

High-tech properties are those generally used by knowledge-based industries and are designed so that an occupier can easily switch uses between, for example, storage, production and offices.

An increasing number of such properties has become available along the M4 motorway, which has developed into Britain's advanced technology corridor. Although demand for high-tech space has been steady, it has not returned to the peak touched in 1984.

The letting to DEC is seen as reflecting the latent demand for new property. The building has not been constructed. When completed, it will be used as a logistics centre for DEC's operations in southern England.

UK election manifestos

Stalking an uncertain target

BY CHARLES BATCHELOR

FOR DECADES the Tory Party has been the natural choice of the small businessman in the UK. This election may show that this is no longer so.

High levels of unemployment have forced many blue-collar workers into self-employment; enterprise schemes in schools and universities have begun to produce a generation of young, politically-uncommitted entrepreneurs; and the rival parties, most notably Labour, have put a lot of thought into their small business manifestos.

"The growth of self-employment among people from a variety of backgrounds means you can't say which way they will vote," says Gerry Dowds, a spokesman for the Forum of Private Business, one of the largest of small business lobby groups.

"You can't assume they will vote Tory. In the marginal constituencies they could have persuasive influence."

Seizing their chance, the Forum and several other small business organisations have been bombarding the party spokesmen and the candidates with questionnaires and suggestions for policies.

Despite the undoubted efforts of the parties, the lobby groups are still not satisfied. "There is nothing in any of them which is particularly new or very dramatic," sniffs Brendan Donnellan, general secretary of the 1,000-member Association of Independent Businesses.

"They all pay lip service to small firms but it is all very broad stuff. I would like to see more commitment."

Barry Baldwin, chairman of the Union of Independent Companies, agrees: "We find the manifestos a little woolly. There seems to be a lack of a precise understanding of our problems."

But Labour wins a degree of praise from Graham Bannock, an independent consultant on small firms affairs. "This is the first time Labour has come up with a coherent policy," he notes. "They realise they can't ignore small business. At the bottom end they are the new working class — often earning less than people in unionised jobs."

So how have the parties been fighting for the small business vote? David Trippier, the energetic small firms minister, is in a tricky position. The Conservatives have launched a host of new schemes over the past few years but have recently been shifting the emphasis away to broader economic measures—such as cutting tax and reducing interest rates.

This has left the party with a shortage of eye-catching new programmes to dazzle the small business lobby and led it to concentrate its election effort on its past record.

If re-elected the Government plans no major new initiatives but wants to shift its emphasis to training the owners of existing businesses and away from encouraging new start-ups.

"We now have 2.7m self-employed people—the highest level for 60 years—and new companies are being set up, after allowing for failures, at a rate of 500 a week," says Trippier. "This is the highest percentage increase in history."

A little-noticed speech by Kenneth Clarke, the Employment Minister, to Tory small businesspeople last April opened up several new avenues for small firms policy.

He suggested a far more interventionist approach—US-style — to a number of problems. Small firms should be given further encouragement to tender for local authority and Government contracts while companies based in Britain's troubled inner cities should also be given special help.

Clarke also promised greater assistance for co-operatives, which he praised as a "wholly attractive idea" which had been hijacked by Tony Benn and the Labour left in the 1970s.

Labour, for its part, has been attempting to establish its credentials as a serious supporter of small business under Barry Sheerman, a former lecturer who had drawn heavily on the advice of the growing community of small business academics for his policies.

It was a Labour minister, Tony Crosland, who in 1969 set up the Bolton Committee, which put small business on the map. And it was Labour again which set up the Wilson Committee in the late 1970s to review progress, Sheerman notes.

Nevertheless, Labour has something of an uphill struggle to establish itself as the natural party of small business. "Labour is more practical and less ideological after eight years in opposition," Sheerman told an all-party debate on small business issues organised by the Forum of Private Business last week.

Sheerman has outlined a 12-point programme of action, the main thrusts of which are to switch the emphasis for promoting enterprise to the local community and away from Whitehall and to make sure that the strategies of the best of the locally run enterprise agencies and chambers of commerce are copied throughout the country.

He also wants to encourage enterprise awareness among the young and improve small business training schemes.

In attacking the Conservatives on these issues, particularly on the role of the enterprise agencies, Sheerman is taking Trippier on in the area where the minister could justifiably claim his major successes.

The agencies, which dispense advice and sometimes funds to small businesses, have increased their numbers from 10 to more than 50 in the past four years though Trippier himself acknowledges not all are up to scratch.

But it is over the broader money issues such as taxation, interest rates and plans for a national minimum wage that Labour is most vulnerable to the charge that it would increase small business costs.

The Alliance, alongside a vague promise to reduce the burden of tax and red tape, does make specific proposals to introduce an industrial investment bond, based on a US idea, to provide small firms with cheap, fixed-rate loans. British small businessmen have long envied their West German, Japanese and French counterparts' access to this type of funding.

The Alliance also plans to back business start-up and expansion schemes designed specifically for women.

For all the thought the parties have given to their manifestos Barry Baldwin of the Union of Independent Companies feels that until Britain has a Small Business Act on the lines of similar American legislation the country's entrepreneurs will not be taken seriously.

The parties' acknowledgement of the small business issue reflects how far the sector has come over the past decade. The Forum of Private Business puts the small business vote at 5m people, comprising the owners and their spouses. They represent 12 per cent of the electorate — potentially a very powerful lobby.

Confusion arises from policy proliferation

Charles Batchelor on W German regionalism

REGIONAL POLICIES have fallen out of favour in Britain in recent years, allowing the south-east to exert a strong economic pull on the rest of the country.

In West Germany, by contrast, the small businessman has been almost overwhelmed in the past decade with a welter of support schemes as the provincial land governments have introduced small firms legislation alongside the existing federal programmes.

But as assistance for small firms has proliferated, concern has been growing that the sheer diversity of these measures is confusing rather than helping the small business owner.

"There are Laender which are dependent on one or two main industries: those with many smaller firms and those which are agricultural so they all need their programmes," says Peter Andersen, head of the small firms policy section in the Economics Ministry in Bonn. "That is understandable. But what is not understandable is the fact that they won't co-operate or exchange information."

Now the federal government has started to weed out some of its own business support programmes in favour of wide-ranging tax cuts but there is no sign that the Laender plan to follow suit.

Even provinces such as North Rhine-Westphalia, an area where the economy has traditionally been dominated by large coal, steel and textile concerns, maintains an active small firms policy. In fact, the accelerating decline of the region's staple industries in recent years has focussed more attention on its small firms programmes.

So important does the Land governments based in the provincial capital of Dusseldorf, consider this sector of the economy that it has a separate Ministry for Small and Medium-sized Enterprises—the Mittelstand.

The southern German provinces of Baden-Wuerttemberg and Bavaria, where small high-tech companies cluster round the large automobile and aerospace groups, may have become more fashionable of late but North Rhine-Westphalia has done as much to promote small high-tech businesses as the other Laender, claims Alois Fischer, an economic adviser to the provincial government.

North Rhine-Westphalia has lost 1.3m jobs in its main heavy industry sectors since the 1960s but has made up almost half this number in other sectors in smaller firms, he adds.

The province has more than 470,000 (non-agricultural) small and medium-sized enterprises—those employing up to 500 people—with a total workforce of about 4m people. Apart from supplying nearly 85 per cent of all apprenticeships, they provide jobs close to people's homes and—because of their flexibility—stability in a time of rapid economic change.

Pressure on the provincial budget has led to cuts in the total funds available for smaller firm support over the past seven years and prompted a more selective support programme.

New start-ups and high technology ventures became the targets for financial aid while the advisory effort was concentraded on export promotion and (again) technology.

Start-up assistance takes the form of cheap credits of up to DM 300,000 (£101,000) or 30 per cent of the eligible investment, whichever is the higher. North Rhine-Westphalia also claims to be one of the first Laender to have provided help for the creation of co-operatives.

Help with exporting takes the form of providing advice, assistance in participating in trade exhibitions in difficult markets and selectively guaranteeing export business.

High-tech assistance is available to the smaller firm from ZENIT—the Centre for Innovation and Technology—set up in 1984 in Muelheim with the backing of the Land, the Westdeutsche Landesbank (which acts as a central bank for the region's savings banks) and a group of 35 local small firms.

ZENIT acts as a technology transfer centre, spreading ideas for products and processes out from larger companies to small firms in fields such as computer aided-design and manufacturing, surface technology and environmental protection. One way it does this is to build models of new technologies which it then demonstrates to the small businessman.

A number of the province's technology support programmes have the backing of local savings banks. One of the traditional strengths of small business in Germany has been the presence of thousands of these banks whose managers have close knowledge of their locality. While Britain's banks have an extensive branch network many businessmen feel their centralised policy making structure is less attuned to the needs of small firms in the regions.

Local savings banks in North Rhine-Westphalia are backing technology centres and providing special credits for high-tech ventures promoted by colleges of technology. Some have even formed venture capital funds to take equity stakes in small high-tech firms. While the trend in recent years has been for stronger provincial initiatives to back small business, in one important area the move has been towards centralisation.

Germany's eight stock exchanges have begun to co-operate more closely in an attempt to compete more effectively with rival foreign exchanges. But even if Dusseldorf, second largest of the German exchanges after Frankfurt, loses some of its independence, the gains in terms of improved liquidity seem likely to outweigh any disadvantages.

Rationalising Germany's stock exchanges is unlikely to lessen the determination of the country's Laender to maintain their independence. Many of the small firms policies followed by North Rhine-Westphalia have their counterparts in the other 10 provinces.

In brief...

FRANCE has clocked up considerable success in commercialising advanced technology fields such as electronics and biotechnology. More recently it has embarked on a modernisation of its financial markets. Both areas come together in a new survey of the French venture capital industry and its implications for funding high technology.

Venture Funding and High Technology in France, the Players, the Stakes, the Future* looks at opportunities for foreign investors in French high technology, government efforts to promote business creation, venture capital developments and the effects of the second marché. It profiles 18 venture funders, both French and foreign, government - backed and private.

* Howard Associates, 156 Mountain Avenue, Summit, NJ 07901 USA. Tel 201/277 4312. 125 pages $450 until June 15 and $550 thereafter.

●

NATIONAL WESTMINSTER has become the latest bank to introduce a standard tariff for its 400,000 small business customers. Lloyds Bank started the trend in July 1986 and was followed by Barclays last March leaving Midland as the last of the big four clearing banks not to provide this service.

The advantage for small business clients is that they can estimate in advance what their likely bank charges will be instead of being confronted at the end of the quarter with a bill they do not feel is justified.

NatWest is charging 48p for each debit and 55p per credit. There is also an account charge of £3 a quarter though the total charge may be reduced or cancelled by an allowance for cleared credit balances currently calculated at 2.5 per cent a year.

This tariff will apply to businesses with turnover of up to £100,000. However, companies under this limit but which still require the handling of large amounts of cash or volumes of cheques will be charged at an individually negotiated rate.

NatWest has also introduced free banking for customers on the government's Enterprise Allowance Scheme.

●

THE CBI is opening its Business Enterprise Award for the title of Company of the Year to smaller companies. The award, which goes to the company judged to have made the most outstanding contribution to wealth and job creation, is being extended to allow entries from any UK company with turnover of £1m a year or more. Previously £5m was the lower limit.

Entries close on July 31. Contact Esther Twena, CBI, Centre Point, 103 New Oxford Street, London WC1A 1DU.

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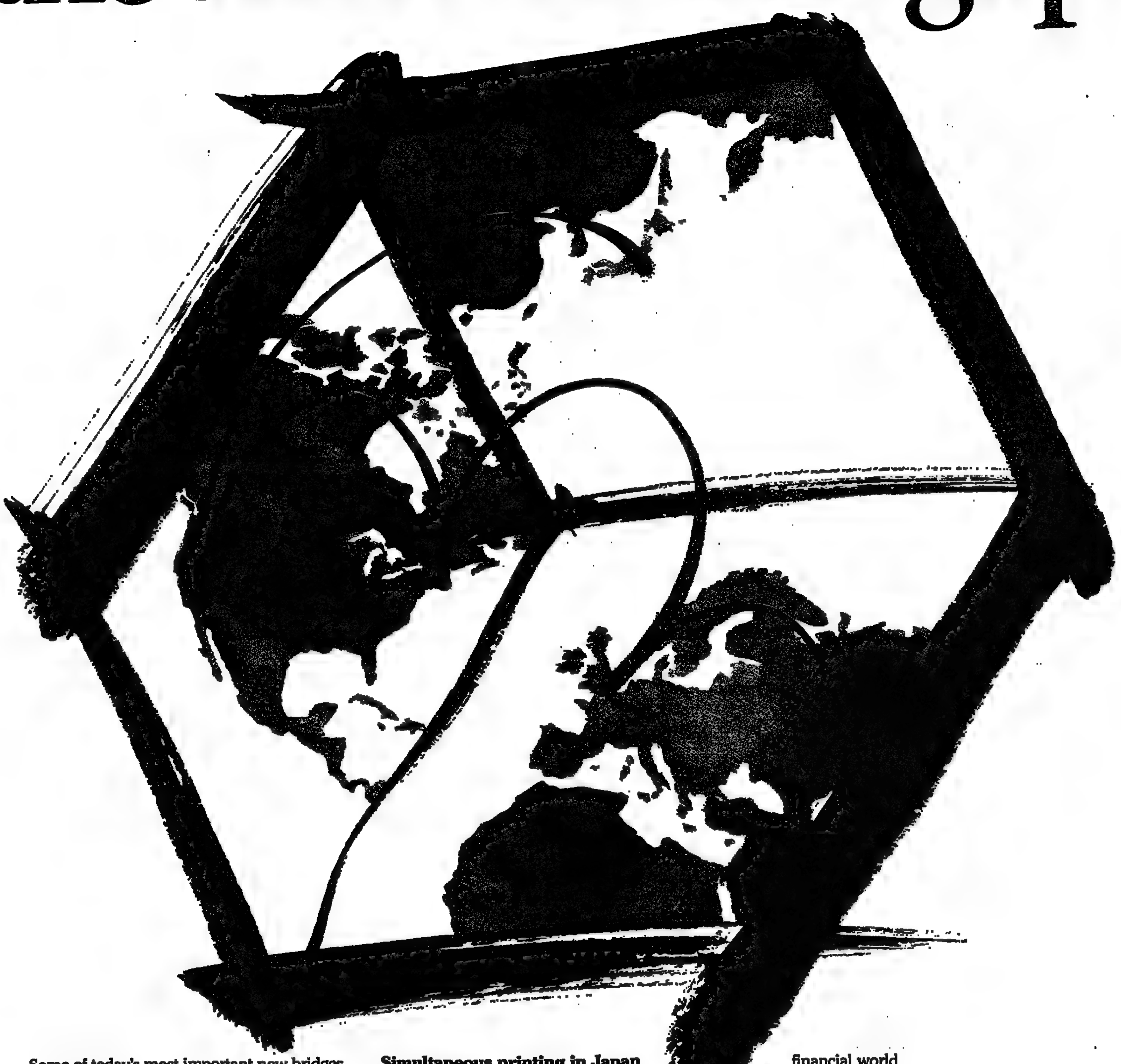

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F-6

Russ McCulloch and David Owen on the outlook for US steel groups

Inland pins hopes on South Bend

ON THE face of it, Chicago-based Inland Steel has weathered the on-going US steel sector crisis considerably better than most major competitors. Wheeling-Pittsburgh and LTV Corp have both filed for Chapter 11 bankruptcy protection. Bethlehem Steel is expected by many to follow suit eventually. And USX, having reorganised into a holding company format, is struggling to regain market share after the longest labour dispute in domestic steel industry history.

Inland, by contrast, by slashing costs in real terms by 25 per cent, selling assets and positioning itself in comparatively buoyant industry sub-sectors, recently returned to modest profitability. "For an industrial company in the US, we are looking pretty good," says Mr Theodore Myers vice president finance.

Other factors, such as the company's essentially single plant configuration and its favourable mid-West location, augur well for the future. Nonetheless, as Mr Myers admits, Inland is still not exactly in the pink of health. "We need to make more progress or we cannot compete in capital markets," he says, pointing the company's lacklustre BB credit rating.

With analysts from Chase Econometrics to Data Resources expecting a further downturn in US steel consumption, in 1987 and beyond, progress will not easily be achieved.

In such circumstances, a question mark hangs over the company's proposed 1m tonnes per year continuous cold rolling mill, which is expected to cost $400m to construct, in a joint venture with Nippon Steel of Japan on a site near South Bend, Indiana.

After all, the world's largest steel producer, formed by the merger of Yawata and Fuji Steel in 1970, is experiencing severe financial problems of its own at present—having last month reported its first annual operating loss.

As things stand, the company formed as a result of the joint venture, to be called I/N Tek (tekko is Japanese for steel) and owned 60 per cent by Inland and 40 per cent by Nippon Steel, will be capitalised at $150m. The rest of the project's expected cost is being met by a consortium of Japanese trading companies led by Mitsui and also comprising Mitsubishi and Nissho-Iwai.

In some ways, Inland, which has a history, unlike many competitors, of installing modern equipment without always securing a satisfactory rate of return, had little choice but to grasp this latest opportunity to upgrade.

For its relatively manageable $90m stake, I/N Tek will provide Inland with state of the art steel processing technology, capable of meeting the stiff quality requirements increasingly demanded by car makers.

South Bend will incorporate the continuous annealing and processing line technology used at Nippon Steel's 91,000 tonnes per month cold-rolling mill at the Hirohata works, south of Kobe. The mill combines five previously separate manufacturing steps into a single continuous process which, its designers claim, cuts processing time from 12 days to less than one hour. When commissioned in early 1990, the Indiana plant should give Inland an operating cost advantage in the cold-rolled sector.

The company has also received a marked psychological boost from the project's go-ahead. "We have been through the Battle of Dunkirk for almost five years now," says Mr Myers. "This is giving us an emotional lift."

However, the cost of this "lift" in terms of interest and depreciation works out at a stiff $55-$60 a tonne on top of the initial capital outlay, according to analyst Mr Chuck Bradford of Merrill Lynch. Moreover, the protracted—almost three year—negotiations which preceded the inking of the deal may militate against the ultimate success of the venture. "Things could get pretty tough—especially if we go into recession," says Ms Jane Belcher of Chicago-based Duff & Phelps.

One of the prime target markets for the new mill is the string of car assembly plants, part or wholly owned by Japanese manufacturers, being constructed on US sites. As Mr Hiroshi Saito, Nippon executive vice-president, who takes over as president of the company on June 26, explains: "We lost our consumption requirement in Japan because the car makers transferred their production to the US. Through this joint venture, we will be able to supply our steel products from the US location to the Japanese manufacturers who have located new production sites there."

But by early 1990, such plants are already likely to be producing as many as 1.77m units. Mitsubishi-Chrysler's Bloomington Illinois plant, the Toyota works at Georgetown, Kentucky, and the Fuji/Isuzu venture in Lafayette, Indiana, should all just have come on stream. Should I/N Tek be subjected to any construction delays, it would risk, in Ms Belcher's words, "missing the boat with the car industry."

Acknowledging the potential problem, Mr Myers none-the-less feels that it can be overcome on three counts. First, much of the mill's output, he says, will be used in the manufacture not of cars but of appliances. Second, Inland "already has a relationship with Honda." Honda has a 300,000 units per year facility well within reach at Marysville, Ohio, and a smaller 40-80,000 units per year plant just over the border in Alliston, Ontario. Third, Mr Myers, believes, car makers will in any case want to "upgrade" when I/N Tek gets started.

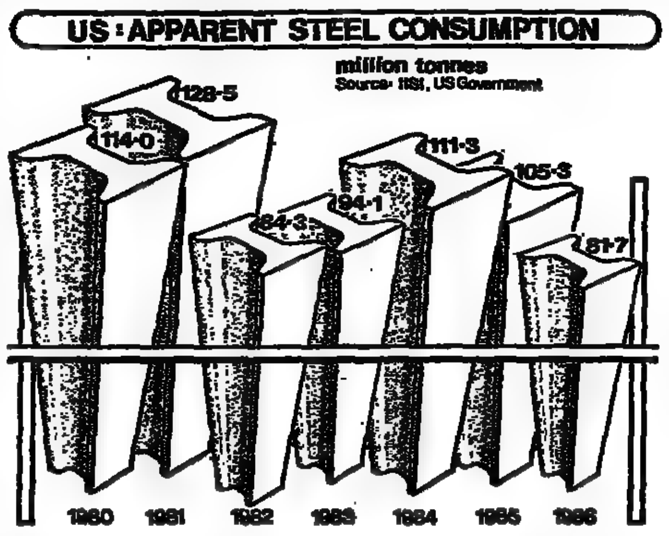
Much would seem to depend on the accuracy of Mr Myers' final assertion. Mr Bradford at Merrill Lynch, for one, remains sceptical. "It is not clear whether customers will pay more for quality," he says, pointing to the less than ideal experiences which the steel industry has had when acting on past auto industry demands. "So far few have been willing to do so," he adds. "Maybe Toyota might."

By 1990 most analysts predict that mini-mills, which have revolutionised the US steel industry by transforming scrap mainly in small non-unionised plants to poach the lion's share of the rod and wire business, will be well entrenched in the flat rolled sector.

Once again, Mr Myers believes that product quality will tell in Inland's favour. The mini-mills, he says, will be "at the extreme low end of the quality scale"—a segment in which Inland "does not really compete."

Meanwhile, Nippon at least is reaping a rich political harvest from its decision to procede with the joint venture. "Through this project," says Mr Saito, "we are co-operating fully with a US mill . . . to supply quality products to US customers. While we have very strong trade friction between the US and Japan," Mr Saito continues, "our co-operation is also deeply appreciated — particularly in Washington."

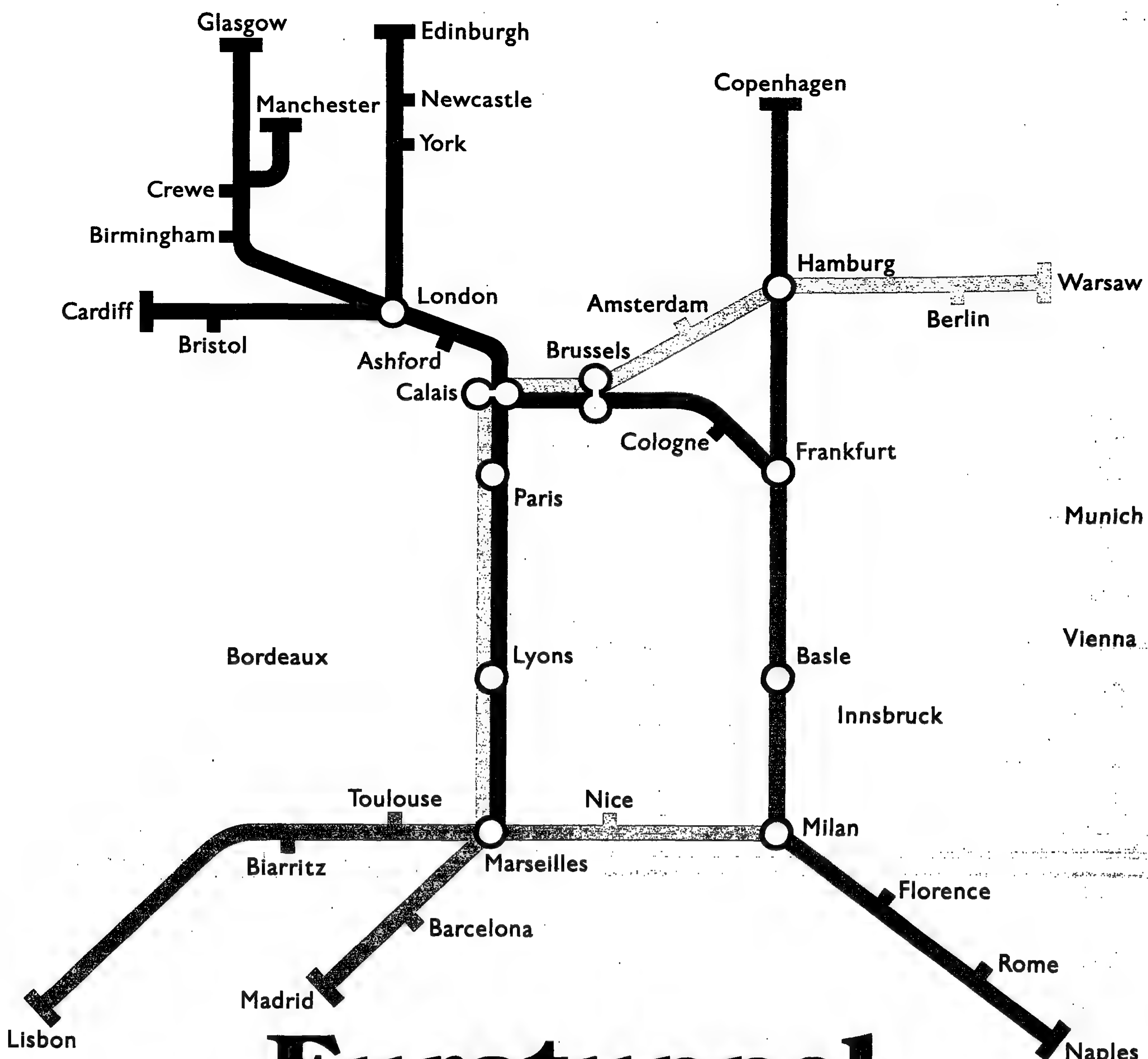
US: APPARENT STEEL CONSUMPTION



INLAND STEEL RESULTS($)

	Sales bn	Net profit/loss m
1986	3.2	19.3
1985	3.0	178.4*
1984	3.1	40.0*
1983	3.0	111.0*
1982	2.8	133.0*
1981	3.8	57.0

* Loss



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The Financial Times is organising its second retailing conference in London on 16 & 17 June. The conference will look at the importance of marketing, manufacturing and distribution in a rapidly changing environment. New concepts in retailing such as armchair shopping and out-of-town centres will also be examined and speakers from Europe and the US will assess the international scene. Speakers will include:

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FT LAW REPORTS

Miner cannot claim twice for pension loss

DEWS v NATIONAL COAL BOARD

House of Lords (Lord Keith of Kinkel, Lord Brandon of Oakbrook, Lord Griffiths, Lord Mackay of Clashfern and Lord Ackner): June 4 1987

DAMAGES FOR loss of earnings of an injured employee who suffers no devaluation in pension rights, do not *include* unpaid pension scheme contributions which would have been compulsorily or voluntarily deducted from his lost wages.

The House of Lords so held when dismissing an appeal by Mr John Dews from a Court of Appeal decision *([1986] 2 FTLR 251)* that he was not entitled to have his unpaid compulsory pension contributions taken into account in an assessment of damages for loss of earnings.

LORD GRIFFITHS said that Mr Dews was a miner. He was injured in the course of his employment. He sued his employer, the National Coal Board (NCB) and was awarded damages.

It was a condition of his employment that he should belong to the Mineworkers' Pension Scheme and that he should contribute a *percentage of his* wages to the scheme. The NCB was entitled to, and did deduct that sum from his weekly wage, and paid it directly into the *scheme*. It made an equal contribution to the scheme.

If a member of the scheme was off work and received no wages neither he nor the employer was obliged to make any contribution.

It was a particular feature of the scheme that if a member was off work for less than 18 months, the break in contributions by him and the employer caused no loss of pensionable *service* and therefore no prospective loss of pension under the scheme.

For a part of the period that Mr Dews was off work neither *he nor the* NCB made any contributions to the scheme. The "lost" contributions amounted to £110, £55 representing Mr Dews's contributions, and £55 *the* NCB's. However, as Mr Dews was off work for less than 18 months that in no way affected his pension entitlement.

Mr Dews claimed the £110 as *one of* his heads of damage. Mr Justice Michael Davies held that he was entitled to recover the £55 which would have been contributed out of his wages, but not the £55 NCB contribution.

The Court of Appeal unanimously allowed the *NCB's* appeal. Mr Dews did not cross-appeal against the finding that he was not entitled to the NCB contribution.

It was a fundamental principle of English law that damages for personal injuries were compensatory, and intended so far as money could to put the plaintiff in the same financial position as if the accident had never happened.

If that fundamental principle were applied Mr Dews was not entitled to recover the £55. If he had not been injured he would never have received that sum, as under the terms of his contract it would have been paid directly into the scheme and would not have been available to him to dispose of as he chose as part of his earnings.

Furthermore, because of the *18 months' moratorium*, he *suffered* no loss of future pension. If he were paid the £55 he would receive £55 more than if had been in full employment and to that extent would be enriched at the expense of his employer, rather than compensated.

Mr Alexander for Mr Dews acknowledged that result but submitted that it should be accepted as an anomaly, for to do otherwise would breach a second fundamental principle governing the award of damages for personal injury, that it was no concern of the tortfeasor how the injured plaintiff chose to dispose of his earnings.

Applying that principle, he *said, as Mr Dews's wages in*cluded the £55 contributed on his behalf to the scheme, it was no concern of the NCB as tortfeasor to inquire how that part of his wages was to be spent, and he was entitled to it as part of his wages.

That second principle could not be applied without some qualification. It had always been recognised that a deduction had to be made for the *expenses of* earning the lost income.

The problem was how best to reconcile the two fundamental principles.

The key to the solution was to be found by recognising that people generally worked with two principal aims in view. The first was to provide themselves with an income available for current spending, and the second was to provide money *for a pension scheme*.

When a plaintiff was injured and as a result was paid no wages his immediate real loss was that part of his net earn*ings that were available for* current expenditure. In respect of that part of his earnings the *object of which was to provide* income available for current expenditure the tortfeasor was, subject to sums necessarily spent to earn the income, entitled to no credit for expenditure saved as a result of the injury. The principle that it was no concern of the tortfeasor how the plaintiff chose to spend his income applied.

Different considerations applied to the contributions of a retirement pension. That money was not intended to provide any immediate benefit and the plaintiff suffered no immediate loss as a result of the loss of his wages. He might, of course, as a result of failure to pay contributions suffer a loss of pension. That loss he was entitled to recover.

In some schemes if the period of disability was relatively short it might be that the loss could be compensated for by paying to the plaintiff a sum equivalent to the contributions that had not been paid *during his disability*, so that he could top up the contributions. But such a payment would have to include not only his own contributions, but also those of his employer.

However, if the plaintiff had been off work for a substantial period or was permanently disabled it was almost certain that payment of a sum equivalent to the lost contributionswould not be sufficient to compensate for *his lost pension rights* and a more sophisticated calculation would be required to ascertain the loss.

What was certain was that the plaintiff could not recover both the contributions and the pension that those contributions would *have* purchased, for that would be to allow double recovery.

Parry & Cleaver [1970] AC 1 demonstrated that if Mr Dews had been off work for a number of years so that his pension rights were seriously affected, he would have been able to recover for loss of pension but he would not have been able to recover for contributions that were not made to the scheme during his period of disability. So bizarre a result could not be acceptable.

It was therefore a startling proposition that if the plaintiff was *less gravely* injured and suffered no loss of pension rights he was able to recover contributions.

It was not a critical feature *of adopting* that approach that the pension scheme was compulsory. If the evidence showed that a plaintiff had been regularly making contributions to a voluntary scheme so that, but for the accident, probability pointed to continuation of contributions, the same principle would be applied.

It would of course be easier *to apply the principle in a com*pulsory scheme because it was possible to say with certainty that the plaintiff would not have received that part of his wages *for his immediate* disposal and that it would have *gone* to the pension scheme.

In the case of voluntary contributions the likelihood of the contributions having been continued would have to be taken *into account*.

The appeal should be dismissed.

Lord Keith, Lord Brandon and Lord Ackner agreed.

LORD MACKAY also agreeing, said that a tortfeasor was concerned with the disposal of any part of the plaintiff's remuneration which was applied to *obtain benefits which might* be affected by his injury and would be a proper subject of claim.

If a plaintiff were entitled to a benefit such as a pension right which was damaged and the tortfeasor was bound to compensate him for reduction in its value, the tortfeasor must be concerned with the extent to which his remmueration was required to be devoted to *obtaining the benefit*.

In the normal case one might expect failure to pay contributions to have the effect of diminishing pension rights. Where that happened the plaintiff could not claim both loss of contribution and the consequent diminuation in value of pension rights.

The speciality of the present case was that the failure to pay contributions because of the *terms of the pension scheme* did not produce any consequent diminution in pension rights.

The correct analysis was that the arrangement under which Mr Dews *sured no loss of pen*sion rights although no contributions were paid was part of the a egnaemrrnt SHRD TA the arrangement for remuneration under which he worked at the time of the accident. Since, viewing that arrangement as a whole, he had suffered no loss in respect of the absence of contributions, his claim failed.

For Mr Dews: Robert Alexander, QC, and Simon Grenfell (Raley & Pratt, Barnsley).

For the NCB: Tom Morison, QC, and Nicholas Underhill (Cyril Peach, NCB).

By Rachel Davies
Barrister

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Company Notices

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Luxembourg, 14, rue Aldringen

The quorum required by law not having been reached at the First Extraordinary General meeting of shareholders held on May 15th 1987, the shareholders are invited to attend a SECOND EXTRAORDINARY GENERAL MEETING OF SHAREHOLDERS to be held at its registered office at Luxembourg, 14 rue Aldringen, on June 25th 1987 at 14.30 o'clock for the purpose of considering and voting upon the following matter:

To renew the authorization to issue additional shares within the authorized capital for a further five year period.

The shareholders are hereby informed that this Second Extraordinary Meeting of Shareholders shall validly vote on the points of the agenda no matter what portion of the share capital of the Corporation will be present or represented. In accordance with Luxembourg law, resolutions will be subject to a majority of 2/3 of the shares represented at the meeting, provided, however, that at this second meeting shares not represented will (in a number not exceeding 1/3 of the total number of outstanding shares) be deemed to vote for the resolutions proposed above, and provided further that in such latter case the resolutions must be voted by the majority of the shares represented at the meeting.

To attend the Extraordinary General Meeting of Shareholders of June 25th 1987 owners of registered shares should have their names recorded in the company's register of shareholders five working days prior to the meeting and owners of bearer shares deposit their shares at least five working days prior to the meeting with following bank:

—Banque Générale du Luxembourg S.A.
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The Board of Directors

MISR FINANCE (CAYMAN) LIMITED
US$60,000,000 GUARANTEED FLOATING RATE SERIAL NOTES DUE 1989

The interest rate for the six month period commencing 8th June 1987 has been fixed at 8 11/16%.

Interest amounting to US$1,311.50 per US$32,000 Note will be due on the 8th December 1987 against presentation of Coupon No. 5.

HAMBROS BANK LIMITED
Reference Agent

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Reg. 05/04580/06
(Incorporated in the Republic of South Africa)
NOTICE TO HOLDERS OF 17 456 020 UNITS OF UNSECURED VARIABLE RATE SUBORDINATED LOAN STOCK
("the loan stock")
Payment of interest No. 1 and closing of register of loan stock holders

Your attention is drawn to the announcement by the Company, published today, of the declaration of a final dividend of 390 cents per share in respect of its ordinary shares. This brings the total dividend for the year to 565 cents per ordinary share.

In terms of the First Supplemental Loan Stock Trust Deed governing the loan stock the interest payable for the period 6 February 1987 to 30 June 1987 to holders of loan stock is based on the ordinary dividend for the year.

Notice is accordingly hereby given that an interest payment of 23.2397 cents per unit of loan stock has been declared payable to loan stock holders registered at the close of business on 3 July 1987.

Warrants in payment of interest for the period 6 February 1987 to 30 June 1987 will be drawn in South African currency and will be posted on or about 28 July 1987 for payment on 31 July 1987. In the case of non-resident holders tax of 10 per cent will be deducted.

The register of loan stock holders will be closed from 4 to 10 July 1987, both days inclusive.

By order of the board
E. G. D. GORDON
Secretary

London Secretaries: Anglo-Transvaal Trustees Limited, 295 Regent Street, London W1R 8ST
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(First Issue)

The interest rate applicable to the above Notes in respect of the six months period commencing Tuesday, 9th June 1987 has been fixed at 7 13/16% per annum.

The interest amounting to US$39.7? per US$1,000 principal amount of the Notes will be paid on Wednesday, 9th December 1987, against presentation of Coupon No. 11.

BANK LEUMI TRUST COMPANY OF NEW YORK
Principal Paying Officer

Company Notices

RAND MINES
RAND MINES GROUP
(All Companies incorporated in the Republic of South Africa)
DIVIDEND DECLARATION

BLYVOORUITZICHT GOLD MINING COMPANY, LIMITED
(Company Registration No. 05/09743/06)

NOTICE IS HEREBY GIVEN that dividend No. 63 of 90 cents per share has been declared in South African currency, as a final dividend in respect of the year ending 30 June, 1987, payable to members registered at the close of business on 26 June, 1987. The register of members will be closed from 27 June to 5 July, 1987 inclusive. Dividend warrants will be posted on or about 31 July, 1987.

The rate of exchange at which the dividend will be converted into United Kingdom currency for payment by the United Kingdom registrars, transfer and paying agents will be the telegraphic transfer rate of exchange between Johannesburg and London ruling on the first business day after 27 June, 1987, on which foreign currency dealings are transacted.

Where applicable, South African non-resident shareholders' tax of 15% will be deducted from the dividend.

The full conditions of payment of this dividend may be inspected at or obtained from the Johannesburg or United Kingdom offices of the company.

DURBAN ROODEPOORT DEEP LIMITED (Company Registration No. 01/00925/06)
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The boards of directors of these companies have decided not to declare dividends for the half-year ending 30 June, 1987.

By order of the Boards
RAND MINES (MINING & SERVICES) LIMITED
Secretaries
Per V. M. MURTON

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9 June 1987

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UK NEWS – THE GENERAL ELECTION

Row over tax plans intensifies

BY MICHAEL CASSELL

PERSONAL invective was injected into the row over Labour's tax plans yesterday as the party's leaders again found themselves on the defensive over the proposed changes, which were not included in its manifesto

Mr Nigel Lawson, the Chancellor, claimed during sharp exchanges in a radio interview that his Labour shadow Mr Roy Hattersley was "lying through his teeth."

Mr Neil Kinnock, the Labour leader, said he did not believe Mrs T8hatcher's denials about extensions of VAT. When asked if there was anything else he did not take the Prime Minister's word on, he replied: 'We have only got the rest of the day"

Labour's plans include the abolition of the married man's tax alolwance and the removal of the upper ceiling on employee's National Insurance contributions . They also involve an increase in child benefit and the ikely reintroduction o fthe 25p reduced rate income tax band.

The abuse began as the Conservatives sought to exploit what they saw as confusion over Labour's policy. Mr Lawson's attack came during a debate on BBC Radio Four's Today programme.

After Mr Hattersley had said that Labour's plans would not hit people earning under £500 a week, the Chancellor said: "What Mr Hattersley is saying is simply not true. In the first place, they have said long ago they are going to put up the basic rate of income tax for everybody by 2p in the pound. That is just for starters.

"Secondly, everybody will be affected by the abolition of the married man's allowance which they concealed from their manifesto, and had to be extracted from them."

Mr Hattersley intervened to claim that a government Green Paper had itself made this proposal, but the Chancellor insisted that under those reforms allowances would be increased so that "everybody is better off." Mr Hattersley said: "That is not what the Green Paper says — that is an invention."

Mr Lawso said: "No, it is what the Green Paper says, Mr Hattersley, and you are lying through your teeth." Later, when Mr Lawson referred again to his Green Paper, Mr Hattersley said: "About which you told lies a moment ago."

At a Press conference Mr Kinnock denied that his party's frontbench spokesman had given contradictory accounts of the impact of its taxation package.

Mr Kinnock said: "The bottom line is to ensure that, by the arrangement of the tax package, no one under £500 a week will be at any disalvantage and many who have children will be at a considerable net advantage."

Mr Hattersley said that people who did not receive the planned increase in child benefit, which would mitigate the impact of the loss of the married man's allowance, would not lose out overall when the ne wstructure of allowances was introduced. However, he indicated that their introduction could be subject to delays.

Commenting on suggestions that Labour's plans for a lower tax band still appeared uncertain, Mr Kinnock added: "If that is necessary in order to compensate families for any possible osses arising for childless couples out of the withdrawal of the married man's allowance, then that is certainly one of the ways in which it could most easily and readily be done."

Mr Kinnock stressed that Labour remained pledged to impose additional taxes on the top 5 per cent of income earners in order to recover the £3.6bn in concessions which had been handed out by Tories. But the package of taxation measures would ensure that people on average incomes suffered no net yoss.

He acknowledged that the removal of the national insurance ceiling would mean "a very gradual and smal ladditiona weekly contribution from from people whose annual earnings ranged from several thosuands pounds a year to £15.000" but that the abolition o fthe married man's tax allowance wuold provide resources to ensure that thise who earned under £500 a week suffered no net disadvantage in tax terms.

Mr Kinnock yesterday ruled out any increases in or extension of value added tax and said that a Labour government would immediately veto any such moves proposed by the EC Commission. Mr Hattersley said he was in no doubt that the EC intended to impose VAT on food, funerals, new building, children's clothing, books, magazines and newspapers.

Power point: Mrs Thatcher tries to live up to her billing at yesterday's Tory press conference

Liberals court the Kashmiri vote

By Philip Rawstorne

MR DAVID STEEL brought his battle bus to Rochdale yesterday, where the Liberals wear red rosettes and regularly return Mr Cyril Smith to the Commons.

The Liberal leader said hello to Mr Smith's famous mum, and then gave the only pledge demanded of him by the town's Liberal-voting Pakistani minority.

"We are firmly committed," he said, "to the UN resolution on a plebiscite in Kashmir."

He declined to answer a question about abortion. And having been assured by Mr Smith that everything in Rochdale was "under control," Mr Steel got back on his bus.

Mr Smith, meanwhile, was assuring reporters that he thought the Alliance had things under control generally. "Despondent? Me?" he exploded, in response to a query. "I have never heard such damned nonsense in my life. We are going to end up with more seats than when we started. That is progress."

The Alliance campaign had been a bit boring, he thought. Not enough jazz bands, balloons and fun. The message had been a bit too intellectual. More ordinary, everyday language would have been better.

But Mr Smith said the message had crystalised in the past week and "we are going to do much better than the polls or national commentators tell us.

"I do not believe we are going to be the next government. I am not daft," he said, gripping his braces. "There is going to be a hung parliament. That does not mean there is going to be a coalition."

There would be another general election, before any coalition he said. He confidently predicted that that election would come within 15 months.

As his battle bus moved through the Pennines, Mr Steel had also predicted better results than the opinion polls foreshadowed. The Alliance would benefit from tactical voting on a much larger scale than ever before, he said.

But yesterday, in two pockets of Thatcher's Britain —a re-employment centre in Nelson and a hospital threatened with cuts in Littleborough—Mr Steel continued with the simple tactic of bashing the Prime Minister.

"In Britain, the long-term unemployed are the forgotten tribe of Thatcherism," he said.

As for Mrs Thatcher's National Health Service: "It is there for one purpose only: to reach the parts that Bupa cannot reach."

Inflation 'to fall below 4% level'

By Tom Lynch

INFLATION WILL be below the Budget forecast of 4 per cent by the end of the year, Mr Nigel Lawson, the Chancellor of the Exchequer, predicted yesterday.

He told a press conference in London he did not know what next month's figure would be, but he reminded journalists of his Budget statement forecast of a 4 per cent rate by the end of the year. "I now believe that will be bettered," he said.

Mr Lawson and Mrs Margaret Thatcher, the Prime Minister, appeared relaxed and confident as they prepared to depart for the Venice economic summit. They presented a rosy picture of the Government's economic record over the last eight years and scoffed at Labour's forecasts of economic recession.

Mr Lawson said similar Labour predictions had been wrong in the past. "Living standards are rising fast, unemployment is falling and inflation is in the low single figures and set to fall further.

"There is only one possibility of the economic disaster Messrs Kinnock and Hattersley have been vainly predicting. That is the election of a Labour government. Fortunately it is not going to happen."

He insisted that manufacturing industry was also doing well, pointing to the recent bullish CBI survey and figures indicating that Britain's share of world trade in manufactured goods had increased over the last five years. Just as Mr Denis Healey had said the Soviets were praying for a Labour victory, manufacturing industry was praying for a Tory win, said Mr Lawson.

The persistently high level of unemployment "does not in any way mean the economy is doing badly," he said. Unemployment in the UK was close to the European Community average and was falling, whereas it was still rising in most other European nations.

Mr Lawson said the way to address the problem was to continue a steady rate of growth and to retrain the unemployed and help them find work. Mrs Thatcher said the Government had inherited a situation in 1979 where "no other country had the amount of overmanning or restrictive practices or the kind of trade union conflict we had. That had to be turned round."

Asked whether the extremes of wealth and poverty in Britain were morally offensive, the Prime Minister said benefits had gone up because wealth had been created to pay for them. "We do not believe you are able to help the weaker people by taking away from the talents and abilities of those who create wealth."

Mike Arron

Bob Cryer: content to be identified with the left

Articulate exponent of the left with middle-of-road appeal

Philip Rawstorne on the style and approach of Bob Cryer

THE PENSIONER who had been snapping excitedly over union power and nuclear weapons seized with a flash of false teeth on his third point. "And what," he demanded of the Labour candidate for Bradford South, "are you going to do about all the extremists in your party?"

That brought a wry grin to the face of Bob Cryer, lately featured in the Tory Party's picture gallery of the alleged hard left as well as the Alliance's list of 101 damnations.

Mr Cryer, 52, currently Euro-MP for Sheffield, does not mind being called a left-winger. He is a passionate unilateralist.

For most of his nine years in the Commons as MP for Keighley until 1983, he sat below the gangway, the traditional base from which Labour's awkward squad needles both front benches.

Mr James Callaghan, whom he *does not greatly admire*, made him a junior minister for industry. But he resigned after two years in protest over the decision to cut government funds to the Kirkby workers co-operative.

But while happy to be identified with the left, Mr Cryer resents being portrayed as some sort of sinister threat. He has issued a writ against Mr Norman Tebbit for the Tory advertisement which, he says, falsely described him as a fund raiser for Militant.

He has extracted an apology and a generous donation to War on Want from the Daily Express for falsely linking him with IRA terrorists and trouble-making striking miners.

Bradford South Conservatives, who had repeated the Express allegations in 35,000 election leaflets, have been forced to spend hours since inking over the words.

The nudge and whisper that is left under their headline—"Things that Bob Cryer won't tell you"—seems unlikely to scare the vote out of anyone; he supported Tony Benn for the Labour deputy leadership; he nominated the Greenham women for the Nobel Peace Prize; and (shock, horror) he refused to attend an official lunch with the Lord Mayor of Bradford in 1974.

Mr Cryer grins and runs a hand through his tousled, greying sandy hair. "That is a savage indictment, isn't it?" His own election address faithfully follows official lines. He has been warmly endorsed by the retiring middle-of-the-road MP, Mr Tom Torney; and with boyish delight, he prizes a Daily Telegraph testimonial to his days as MP for Keighley. "There are few MPs with higher reputations for constituency work."

Canvassing Bradford carpet weavers, he finds a sympathetic hearing for his views on the demise of manufacturing industry. "They are turning up into a nation of assemblers, warehousemen and supermarket check-out clerks." Nobody asks about ideology. Instead they chat about his enthusiasms—steam railways and a lovingly restored 1951 Armstrong Siddeley.

The only really awkward moments during his campaign have been caused by gypsies. They occupied a site—on which Mr Cryer dreams of establishing a transport museum—and a divided Labour council provided them with water and rubbish skips. Local residents rose in anger and the council, fearing a heavy loss of votes, reversed its policy.

By the time Mr Cryer and his political opponents, Mr Graham Hall, a local fruit and veg businessman who represents the Conservatives, and Alliance candidate Mr Trevor Lindley, a community worker, met for a public debate on the issue, the gypsies had gone.

Mr Cryer used the occasion for an easy verbal victory, strongly contrasting his experience and knowledge over less articulate rivals.

Mr Hall, who came within 110 votes of capturing the seat in 1983, broadcasts chunks of Conservative Central Office's guide for candidates in the style of a speak-your-weight machine. "I firmly believe that unilateralism is wrong for Bradford South,' he intones. "But what about Calderdale?" the good-humoured audience demands. "I firmly believe. . ." Mr Hall continues amid hilarity.

Mr Lindley attracts more sympathy but fewer votes. The audience concludes his heart is in the right place. But he is vague about already vague Alliance policies. He is asked about VAT. "Mr Cryer knows chapter and verse about VAT," he confesses wearily. "And no doubt he will give it us."

Mr Cryer nods assuredly—and stands to deliver.

TUC and Tory chiefs clash

BY TOM LYNCH

THE CONSERVATIVES tried to embarrass Labour yesterday over its links with the unions by inviting union leaders to break their recent political silence.

The move drew a swift response from Mr Norman Willis, general secretary of the Trades Union Congress, who emphasised opposition to the use of violence in industrial disputes.

Lord Young, the Employment Secretary, called a press conference to publicise a letter he had written to Mr Willis. Mr Kenneth Clarke, the Paymaster General, who shared the platform with his, predicted a move towards a non-political TUC in the next five years.

In his letter, Lord Young asked Mr Willis whether he supported compulsory pre-stike ballots, a strengthening of closed shops and the reintroduction of secondary picketing. He also asked whether a national minimum wage should be backed up by other wage adjustments to maintain differentials.

Lord Young said 60,000 jobs would be at risk if differentials were not maintained. If they were, £10bn would be added to the national pay bill putting up to 600,000 jobs in jeopardy.

He said Labour's policy of abolishing the Government's trade union legislation would take Britain back "to the outdated notions of class warfare.

"They would give union militants a free hand once again to disrupt our industries—returning power to the shop stewards, restoring restrictive practices and overmanning, throwing away our new-found competitiveness and putting millions of jobs at ris's."

Mr Clarke mocked the lack of recent policy statements from senior union figures, especially in view of their crucial role in funding the Labour Party. He said the party was "ashamed of its industrial relations policy, ashamed of its relationship with the TUC.

Mr Clarke declined an invitation from journalists to look forward to a possible right-wing breakaway from the TUC, arguing that two trade union movements, one of the right and one of the left, would be in nobody's interest.

Lord Young intervened to say it would be best if there was a non-political union movement, and Mr Clarke suggested: "If we have a Labour defeat, we might very well have that in five years."

In his reply, Mr Willis told Lord Young: "Contrary to the impression given in your party's propaganda, there is thing in the TUC and Labour Party joint policy that would in any way justify or tolerate the use of violence in industrial relations."

He condemned the "partisan and one-sided" Conservative union laws and argued that for Lord Young to cite "occasional and totally untypical incidents" as normal union behaviour was as unfair as if the TUC were to argue that all British employers were "spivs and crooks" on the basis of a few scandals in the City.

Biffen advocates further rise in health spending

By Peter Riddell, Political Editor

A FURTHER increase in health service spending was advocated yesterday by Mr John Biffen, the Leader of the Commons, and increasingly independent voice in the election campaign.

Speaking in his North Shropshire constituency, Mr Biffen argued that the election debate about the NHS was "crucial to the judgments that will make the next parliament." He said there had always been a modest health provision financed by private insurance. This did not threaten the NHS, but supplemented it.

"It must be our resolve in the next parliament to see that the growing budget on health is taken forward. That is both a political and social priority. It will demonstrate that modern Conservatism is not only about wealth creation; but also about the proper provision for the social responsibilities of government."

UDM withdraws backing for Labour

LEADERS of the Nottinghamshire section of the Urban of Democratic Mineworkers yesterday told their members they could not recommend that they vote Labour.

The executive's decision came after a rebuff from Mr Neil Kinnock, the Labour leader, who has refused to accord the UDM recognition, and suggested that ultimately there should be only one union for the mining industry — the National Union of Mineworkers.

The unanimous resolution said: "After examining Mr Kinnock's remarks over the weekend and realising that the UDM plays no part in Labour's future plans, we can no longer see our way clear to recommending our members to vote Labour."

Mr Roy Lynk, president of the UDM, a Labour supporter for 20 years, said he would not be voting for Mr Kinnock but the UDM would not be recommending which party members should vote for.

Dr David Owen, leader of the Social Democrats, returned to Nottinghamshire, yesterday in a further attempt to win the votes of UDM members. He had to battle against a persistent heckler and the fringe activities of the town crier when he addressed an open air meeting at Mansfield market-place and reaffirmed the Alliance's support for the UDM.

He described Mr Alan Meale, the Labour candidate, as being "of the far extreme left of the Labour arty and incapable of Labour Party and incapable of representation in the House of Commons."

Dr Owen, who again claimed that the Alliance was on course to hold the balance of power, looked to members of the UDM to ensure that Mansfield and others seats in the Notts coalfield fell to the Alliance.

Labour wins order to halt advertisements

THE LABOUR Party was yesterday granted a High Court injunction preventing the Sun from publishing unauthorised full-page advertisements attacking Labour in particular constituencies.

Labour Party representatives said after the private hearing that three advertisements had appeared in the newspaper so far—one on Saturday and two yesterday—attacking Labour in Mansfield and Haringey, North London. They were apparently sponsored by the "Committee for a Free Britain."

Labour complained to Mr Justice Potts that the advertisements were in breach of the Representation of the People Act, which stipulates that such advertisements can only be published with the permission of a constituency candidate or his agent.

Mr Geoffrey Bindman, the Labour Party's solicitor, said outside court that no one in the party had heard of the "Committee for a Free Britain."

He said any such advertisement was hard to be accounted for in a candidate's election expenses, and no party candidate, either in Mansfield or Haringey, could have afforded to place a full-page advertisement in the Sun.

The Sun was not represented at the hearing.

● At a separate private hearing before the same judge, Mr Russell Profitt, Lewisham East's Labour candidate, was granted an injunction preventing the distribution of a Conservative election leaflet which alleged that Mr Profitt was departing from Labour policy on immigration.

Steel looks to breakthrough by Alliance

By Lisa Wood

MR DAVID STEEL, the Liberal leader, confidently predicted yesterday that the Alliance would make a breakthrough in its number of parliamentary seats this week.

Mr Steel, speaking at a press conference, said he did not accept that the Alliance vote was declining in marginal constituencies.

He said that for there to be a Labour government its support in the opinion polls would need to be above 40 per cent. He said: 'The only question is whether there is another Tory government or if it is possible for us to make up the leeway. That is still an open question at this stage."

Dr David Owen, the SPD leader, said: "There are signs that the Tories are not holding these critical seats they need to hold to have a majority." He said there was movement within the polls, particularly in the marginals. "There has been movement to Labour in some of its marginals and in the seats where we are strong there has been movement to us."

Labour is close to capturing Stockport, one of the marginals it must capture if it is to form a government, according to a poll conducted for Granada Television.

The survey gave the Conservatives 39 per cent (down 3.1 per cent on the last election), Labour 38 per cent (up 9 per cent) and Alliance 21 per cent (down 6.6 per cent).

A similar poll on May 11 gave the Tories 43 per cent, Labour 30 per cent and the Alliance 26 per cent.

Stockport, where the retiring Conservative MP, Mr Tony Favell, had a majority of 5,786 over Labour in the last election, is the Tories' 75th most marginal seat.

Political swings and roundabouts in the principality

Anthony Moreton studies the outlook in Wales

IN A CURIOUS way Carmarthen is the bell-wether of Welsh politics. It used to be said in the US that as Maine voted, so did the union. Carmarthen is the reverse: as it votes so the electors go in the opposite direction.

Since 1945 it has never seen its MP sit on the government benches in the Commons. The Conservatives have never held the seat at all.

Following the Second World War it was Liberal for a while. Then Lady Megan Lloyd George, daughter of the great man, held it for Labour after she crossed the frontier from the party of her youth. Mr Gwynfor Evans took it for Plaid Cymru in the heyday of resurgent nationalism and more recently it has reverted to Labour.

The Labour Party, which held the seat last time in a tight three-cornered fight, is full of hope that its candidate Dr Alan Williams, will romp home.

Labour's confidence could be misplaced. Either Conservative or Plaid Cymru could take the seat, though with Labour appearing to be consolidating its vote in those seats it already holds in Wales the omens are that it will once more hold Carmarthen and face another five years on the opposition benches.

Not that the Tories have given up hope. They pushed Labour to within 1,154 votes in 1983 and with a candidate, Mr Roger Richards, who is not only Welsh but also Welsh-speaking, they certainly have nothing to fear on the image front.

Carmarthen has been a good hunting ground for Plaid Cymru since the mid-1950s, and as the party is only another 1,206 adrift of the Conservatives it, too, is full of hope.

The three-way race in Carmarthen is typical of almost half the constituencies in the Principality. Although Wales is commonly thought of as bed-rock Labour territory, it is anything but that.

In the past 17 years there has been a strong surge in Conservative support. In 1970 it won three seats; last time 14 (since diminished by one following the loss of Brecon and Radnor to the Alliance at a by-election).

At the last election the party won 31 per cent of the vote, not far behind Labour's 37.5 per cent. Conservatism is now a potent electoral force in Wales outside the industrial valleys of south Wales where Labour still tends to count its votes by weight rather than numbers.

There is, too, still a sizeable remnant of the old Liberal tradition in the country which last time gave the Alliance just under a quarter of the vote though only two seats.

Labour continues to be impregnable in the valleys. It is difficult to see much incursion in to Mr Ted Rowland's 22,730 majority in Merthyr Tydfil and Rhymney, or Mr Michael Foot's 23,705 at Blaenau Gwent. And there are 11 more seats like these, where the Labour majority is well into five figures. Mr Neil Kinnock can sleep safely in Islwyn.

The surge in Conservatism has, however, made several Labour seats extremely vulnerable. The shadow Welsh spokesman, Mr Barry Jones, is fighting to protect a majority of just 1,368 in Alyn and Deeside, in north Wales, and another frontbencher, Mr Alan Williams, has just 2,350 in Swansea West. Next door to him, Mr Gareth Wardell, has an even slimmer 1,205 in Gower.

The Tories admit frankly that the tide of opinion that was running so strongly for them in 1983 was helped by the boundary redistribution of 1981, from which they made considerable gains.

Despite their enormous strides it is the Tories who are at greatest risk this time. They hold five seats by their finger-tips—Newport West, Bridgend, Ynys Mon, Clwyd South West and Cardiff East—and are generally expected to lose three, if not all five.

Although support appears to be coalescing behind Labour it is not certain that all five will fall to the left. Plaid Cymru stands a good chance in Ynys Mon (better known as Anglesey) and the Alliance favours its chances not only in Clwyd South West, where its candidate, Mr Tom Ellis, is both a former Labour MP and one of the original founding fathers of the SDP, but also — just outside the dangerous five — in Cardiff Central.

The biggest loss to the Conservatives would be Newport West, where its candidate, Mr Mark Robinson, is parliamentary secretary at the Welsh Office. Mr Robinson is unusual among the lawyers, bankers and public relations men who inhabit the Toryl back benches in that he was a bureaucrat in real life, a political species more normally found in considerable strength on the Labour side. Even more unusual, Mr Robinson was an international bureaucrat, having worked for both the UN and the Commonwealth Secretariat.

Despite Wales's radical past the Alliance is paddling very much in the shallows. Two of its three seats are held tenously —Montgomery, and Brecon and Radnor (the third is Ceredigion and Pembroke North)—and a local poll has indicated that its great white hope, Cardiff Central, where it won almost al the local government seats back in May, could give it a nasty shock.

The best that can be said for the Alliance is that it might hold its three seats. Plaid Cymru hopes to better by adding Carmarthen and Ynys Mon to its two seats at Meirionnydd Nant Conwy and Caernarfon. The party's problem is that it makes no impression on the electorate outside those areas with strong concentrations of Welsh speakers.

It has not managed to convey its philosophy to the public in the same way that the Scottish nationalists have in Scotland. Nor has it managed to win over more than a minority of those who speak Welsh: although just under a quarter of the population speaks the language Plaid Cymru won only 7.8 per cent of the vote last time.

Both the Alliance and Plaid Cymru constitute a nuisance value to the big two rather than a serious threat, though each could take votes from almost anywhere in tight three-cornered fights. They could influence the result in half a dozen or more constituencies without taking one of them.

For the rest, the battle will be, as always, between the red rose and the blue flag.

Kinnock accuses Venice leaders of complacency

BY MICHAEL CASSELL, POLITICAL CORRESPONDENT

MR NEIL KINNOCK, the Labour leader, yesterday accused the leaders of the western nations gathered in Venice of "grandiose complacency" and called for a coherent, international trade and financial policy to stimulate economic growth.

Speaking in Birmingham, Mr Kinnock accused Mrs Thatcher of going to Venice "just long enough for a sandwich, a sermon and a photo-session." He said that if he believed her visit would serve any constructive purpose, he would applaud her temporary absence from the election campaign.

But he did not think she or any of the other western heads were intent upon taking the action required to stimulate expansion. They were, he added "buying time and not seeking solutions."

The Labour leader said it was necessary to ensure that the Venice meeting represented the last "sit tight" summit. In future the leading economic powers had to overcome their "paralysis of will" and orchestrate policies which not only helped their own economies but which lifted the burdens of debt and famine from the less developed nations.

He claimed that the policies of the main economies had created a slump which spread depression and unemployment around the world. Governments had cut public spending and attempted to control the money supply by raising interest rates but their actions had forced countless employers out of business.

Only the increase in the US budget deficit, Mr Kinnock argued, had stimulated a "stumbling revival" in other countries and now that fragile expansion was threatened by the growing US balance of payments deficit.

Hopeful exhortation to the US to cut its deficit and to other nations to expand their economies were, he stressed, no substitute for a coherent, international economic programme intended to stop the menace of creeping protectionism. Mr Kinnock instead called for an agreed mechanism for the regulation of trade and finance, operated within the objective of expansion.

While acknowledging the weaknesses of the Bretton Woods agreement of 1944, he said it still represented a source of inspiration for those intent upon creating a more efficient, international economic regime.

A new agreement to foster world trade and to provide the answer to competitive deflation and protectionism would have to entail a commitment to expansion and employment, the creation of a stable financial system which discouraged speculation and the establishment of a mechanism for adjusting the trade balance in deficit countries without jeopardising employment and growth, he added.

"What we seek, and what the summit should be pursuing, is a different way. That way means using the resources that are now spent on idleness to pay for growth. It means turning the benefit-claiming jobless into tax-paying workers.

"It means turning the poverty-stricken supplicant nations of the world into prosperous producers and paying consumers. It means building a system of international co-operation, not a system of international threats and trade wars," Mr Kinnock concluded.

Mr Nigel Lawson, the Chancellor, told a press conference in London that the Government was going to the Venice summit with five objectives. He said the British team would be seeking reaffirmation of the action agreed among central bankers to maintain exchange rate stability and measures by the US, Japan and West Germany to underline that stability and to prevent a faltering in world growth.

It would also seek firm declarations against protectionism, ways of dealing with world agriculture problems and of easing the debt burdens of very poor countries.

Mr Lawson said he, the Prime Minister and Sir *Geoffrey Howe, the Foreign* Secretary, would be attending the summit as the *Government of the country* with the fastest economic growth.

Owen urges Gulf shipping initiative

BY IVOR OWEN

DR DAVID OWEN, leader of the Social Democrats, called yesterday for determined efforts by Britain to persuade the Soviet Union to join in internationalising shipping movements *in the Persian Gulf.*

He stressed: "What is needed is not a US initiative in the *Gulf but an international* initiative."

Dr Owen urged Mrs Thatcher to seize the opportunities available to her at the economic summit in Venice and not merely to treat it as "just one Cornetti photo opportunity" in her bid to secure a third term as Prime Minister.

"A gondola on the Grand Canal and a serenade by President Reagan is no substitute for real leadership," he said.

Dr Owen, addressing the Commonwealth and Diplomatic Writers Association in London, underlined the importance of *making it clear to Iran that* interference with shipping in the Straits of Hormuz would be seen as a challenge to the international community.

The involvement of the Soviet Union was crucial because it was not in western interests to monopolise shipping *in the Gulf at the present time.*

Dr Owen maintained that Britain could and should be able to expand its economy without inflationary consequences as an adjunct to the more ambitious but carefully staged expansionist policies required from Japan and West Germany.

He endorsed the view that the effect on the dollar would be the test of the value of the economic summit and suggested that both Britain and the US were likely to agree to a more interventionist role in the interests of currency stability.

Dr Owen described Mrs Thatcher as "one of the most narrowly based political leaders" Britain had ever had and contended that though she was the longest-serving head of government attending the summit, she was likely to make a contribution that fell short of what was needed.

He said the Venice summit should sound the alarm and provide the leadership needed to get the industrialised world to draw back from the economic precipice.

Dogged pursuit of votes: Christopher Huhne (top) in Oxford West and Andrew Smith in Oxford East

Peter Riddell on fresh clues to voting intentions in Oxford's two seats

Third parties again hold the key

MEN WITH TATTOOS on their arms invariably vote Conservative. Names on the electoral roll are also a clue. "If it's Nigel and Gillian, forget it, they're Alliance." says one experienced Tory canvasser. "Olive and Ronald, that's all right"; it was.

"David and Hilary, probably Alliance"; wrong, they were Tory. David had a tattoo. "Henry and Rhoda, either old-fashioned Labour or Tory." They were Conservative and proud of it, because of defence. Perhaps a new parlour game has been born?

These candidates' adages and others about the new face of British politics were tested during a two-hour walk round a council estate of 1930s and 1950s terraces and semis near the Rover Group's Cowley plant in Oxford.

The old class predictors of voting have broken down. The Tory working-class vote is alive and well in Oxford East. It needs to be if Mr Steve Norris is to hold on to his slim margin of 1,267. He claims to be holding on to his 40 per cent share then.

In his four years in the Commons, Mr Norris, has made a name as a witty speaker with an interest in freedom of information issues. And as the owner of an up-market car business he has a good line in salesman's patter on the doorstep.

Defence and the "loony left" issues are, he says, helping him, though he has faced questioning on pensions (less than expected even so), education and housing.

Most serious has been the health service, which, together with other public services, is now a larger employer than Rover in a constituency which stretches east and south of the university. A number of people have said: "I can't vote for you because I work in the health service."

Mr Andrew Smith, his Labour challenger, agrees on the main issues. In addition, he has been focusing on the Cowley workers, many of whom deserter Labour in 1983, by warning that the plant's future would be in doubt under the Tories, citing the abortive talks with Ford in January 1986.

He is one of the party's new-style *candidates* who *spends* most of his time on politics. Educated at the university, he *is education officer for Oxford* and Swindon Co-op, has been a city councillor since 1976, and has been nursing the seat since before 1983.

Labour's campaign reflects its improved general organisation—an election address with colour photos and messages targeted to particular groups—together with the higher morale produced by the national effort.

Constituency profile on OXFORD

Oxford East is the Tories' *12th most vulnerable seat and* Labour's cautious confidence rests on squeezing the 22.7 per cent vote in 1983 *of* Mrs Margaret Godden of the Liberal/SDP Alliance. She admits the *risk of a squeeze, though* concedes this could be as much anti-Labour as anti-Tory. She *claims a large number of voters* are still undecided.

The Liberals have built up some local government support, but are clearly the also-rans in this seat, which Labour needs to win if it is to show any real advance nationally.

The picture is very different on the other side of Magdalen Bridge. Oxford West and Abingdon includes the main university area and stretches out to include the small towns and villages to the west. Although held by Mr John Patten, the Housing Minister, with a 7,151 majority at the 1983 election it is one of the SDP's key target seats.

The SDP has put in considerable resources and Mr Chris Huhne, its candidate, clearly feels the time, and *mood*, in Oxford are right for the seat to be won by the economics correspondent of the *Guardian*. He *lays particular* stress on squeezes in funding of higher education and scientific research with *personally* addressed letters to academics.

There has, incidentally, been a high-tech rivalry between the Alliance and the Tories over which is more advanced in using their laser printers to send letters to target special interest groups or undecideds.

Mr Huhne is good on the doorstep, though when touring an old people's home he was advised to say he was a Liberal; the Alliance being a somewhat novel fashion.

If the Tories are vulnerable with the professional middle-class/university vote (though some of this may already have defected in 1983), their working class support is said to be *solid. A poll of students also* showed the Tories doing less badly than in previous surveys, *though still third. (Judging* by the posters in the windows of Balliol College, Labour outnumbers *its rivals,* with the Tories third).

As with Oxford East, the key in Oxford West lies with the third party — in this case Labour which took 16.9 per cent in 1983. Despite some talk of a pairing of tactical voters between the two constituencies, *Labour's Mr John Power will* have no truck with such suggestions. He is a former Cowley shop steward and locally born traditional Labour man and councillor (he supported the Falklands expedition).

His objective is to see off the outsider, Mr Huhne, and to defend *Labour's strong local* government base in Oxford.

The only published poll, commissioned and paradoxically released by the SDP, shows that Mr Power has improved on Labour's 1983 position and that Mr Pattern should win comfortably. Despite his confidence about squeezing the Labour vote, Mr Huhne needs a better national SDP showing and a worse Tory one to win.

The Tories in both Oxford seats have had the benefit of the intervention of Mr Jeffrey Archer who appears to be rivalling Mr Michael Heseltine in activity (though neither *would appreciate the comparison*), visiting more than 120 seats.

Speaking to the *faithful* in Conservative clubs and using novelist's licence he recalled sitting in the Commons both when Mr Denis Healey went to Washington in 1976 seeking 24bn from the IMF and during the Lib/Lab pact of 1977-78. Mr Archer actually left the Commons in February 1974, Mr Healey never went to Washington in the IMF crisis and sought less than $4bn.

He then challenged the audience to say what would happen after the Soviet occupation — "Who'll be digging the trenches? Who'll be guarding the roundabouts with pitchfork and spades? Who'll be the resistance leaders? The Tories."

It was all great revivalist stuff and the faithful loved it, *and him. It is one of the* ironies of the Tory campaign that the great crowd-pliers (Mr Archer, Mr Heseltine and Mr Cecil Parkinson) are all on the outside.

1983 results — OXFORD EAST: S. Norris (C) 18,808; A. *D. Smith 17,541; Mrs M.* Godden (Lib) 10,690. C majority 1,267. Turnout 73.9 per cent.

Candidates: S. J. Norris (C); A. D. Smith (Lab); Mrs M. Godden *(Lib); D.* Dalton (Green).

OXFORD WEST and ABINGDON: *J.* Patten (C) 23,778; D. E. T. Luard 16,627 (Lib); J. Jacottet (Lab) *8,440; Ms M.* Starmer (Ecology) 544. C majority 7,151. Turnout 73.9 per cent.

Candidates: *J.* Patten (C); J. G. Power (Lab); C. M. P. Huhne (SDP); D. Smith (Green).

Support for minimum wage policy

By Philip Bassett

CONSERVATIVE claims that *a national minimum wage as* advocated by Labour would lead to the loss of between 60,000 and 600,000 jobs is "wildly inaccurate," according to a report by two Cambridge *economists.*

Lord Young, the Employment Secretary, made the claim *on the basis of a national minimum* wage of £80 per week in an effort to show Labour's programme *as likely to lead to job* losses.

Mr Frank Wilkinson and Mr Peter Brosnan, from Cambridge University's department of applied economics, claim that Labour's policy *is* "an essential foundation for sound economic development."

Tied to a cut in VAT, higher income taxes for the highest paid and a subsidy for the *clothing industry,* the two economists argue that Labour's policy would increase domestic consumption by about *£370m,* producing an overall increase in employment of some 30,000.

*The report, published in out*line today by the *Low Pay Unit* pressure group, says that a *minimum wage set at about two-*thirds of average *earnings*—the rough target of the TUC—would raise average labour *costs* throughout the economy by 3.5 per cent.

Cheap Labour — Britain's False Economy, by P. Brosnan and F. Wilkinson. To be published by the Low Pay Unit, 9, Upper Berkeley St, London W1H 8BY.

Throw dull politicians to the salesmen

Christopher Dunkley on the election television coverage

THOUGH it has been a drearily worthy election campaign on television with the emphasis in most programmes falling on the issues, it seems clear that, thanks largely to television, the electorate today is better equipped to make an informed choice than ever before.

It was interesting and irritating to watch the beginning of Channel 4's usually excellent After Dark discussion on Friday in which a group of middle-class intellectuals made ritual complaints about the way that television was turning general elections into personalised presidential campaigns and ignoring the issues.

"In this election we haven't had any politics," said Anthony Smith, director of the British Film Institute. "There was a time when arguments counted," drawled churchman Hugh Montefiore. And when American John Ehrlichman asked: "D'y'all have head-to-head debates between the candidates?" nobody quite knew what to say. In the end philosopher Mary Midgeley suggested: "They're not very keen, are they?"

It was an all-too-familiar performance in which well-educated, professional people, *rich enough to be Economist* readers, with lifestyles that keep them out in the evenings at dinners or the theatre, casually condemned television in terms which proved that, compared with most viewers, they hardly ever see it.

Nobody who had actually watched Channel 4 News, Panorama, Weekend World, On The Hustings, Election Brief, Newsnight, This Week, Election Call, Campaign 87, This Week Next Week, Campaign Comment, Central Choice, Election 87, and A Week In Politics regularly during the past fortnight—or even a small selection of them—could have trotted out the fatuous old cliché that "it's not being put to them as a rational choice, it's being sold to them as toothpaste." (One could make a whole programme on the social implications of Hugh Montefiore's use of "them" rather than "us" in that sentence.)

It is true, of course, that if the most you manage to see on television is a glimpse of a breakfast programme and an occasional snatch of an evening news bulletin, it will not provide you with the sort of analysis that you will get from reading the features in a broadsheet newspaper. On the other hand, anybody who has watched the programmes listed above will by now be sick to death of head-to-head debates between candidates; fed up to the back teeth with intricate arguments about health care statistics; bored to tears by detailed explanations of the defence issue, the unemployment issue, the income tax issue, the education issue, the rates issue, et al.

Those of us who have watched the election programmes have been crying out for a little of the toothpaste salesman's art to lighten the lead and brighten our lives. Why has television given us such a lacklustre campaign? In part it is the material it has had to operate through: dull politicians. In part it is lack of inventiveness: during past elections we have had regular programmes from an American following the campaign, or from shrewd retired politicians such as Dick Crossman and George Brown.

But the main factor, surely, is that whereas newspapermen long ago fought and won a war against the politicians *for their freedom,* broadcasters have always been in thrall to Westminster. To this *day the governors of the BBC* and the IBA are appointed by the Government. The BBC's *income depends upon the* Government. ITV's activities are controlled by a *Government act.*

Moreover, the present Government, which shows signs *of being re-elected,* not only contains Norman Tebbit—whose attitude towards broadcasters is all too well known—but has up its sleeve a green paper on broadcasting that could have all sorts of nasty things to say about advertising on the BBC and selling ITV licences to the highest bidder.

So long as the broadcasters are unwilling or unable to fight the politicians for their freedom, they will clearly want to go on emerging from elections safe in the good books of whoever is about to *assume power over them.*

However, despite all its shortcomings, television does *for today's electors what* no previous mass medium has achieved: it brings the politicians into our living rooms.

When Mrs Thatcher was seen on the news *making her* now notorious statement about private medicine—"I *exercise my rights as a free* citizen to spend my own money" etc—not only did it make *clear her attitude* on this subject to every voter in the country, it allowed each one of us to hear the tone of voice in which she said it and to see the expression on her face as she did so. Neil Kinnock's "don't you patronise me son" was similarly telling. There was no "manipulation" here: the real Thatcher and the real Kinnock stood revealed.

Must we conclude, then, that television has indeed been the central influence in the 1987 campaign? One of them, no doubt, but as it comes to an end there are points worth pondering. Before the campaign, the Alliance fought tooth and nail to get equal time on television. They got it—and their popularity slumped. For the Labour Party, Hugh Hudson, director of Chariots Of Fire, made the party-political which, by general consent, was the cleverest of the entire campaign, winning professional and popular acclaim; but did it win the election? The Conservatives, who spent millions, began the campaign with 43 per cent of the vote and finish with exactly the same share.

Maxwell rejects Tory advertising

By Raymond Snoddy

MR ROBERT MAXWELL, publisher of Mirror Group Newspapers, said yesterday that he has turned down £300,000 worth of Conservative Party advertising for the Daily Mirror.

The former Labour *MP said* that advertising agency Saatchi and Saatchi had tried to book 12 pages in the Mirror for the final days of election campaign.

Mr Maxwell said he refused the advertisements because the Conservatives had not been interested in advertising in the Mirror when they believed they were going to "walk" the election.

More importantly, he said, the Daily Mirror had been the daily newspaper unambiguously supporting the Labour Party.

Alliance attacks 'frittering' of oil revenues

By Lisa Wood

ALLIANCE leaders yesterday accused the Government of frittering away North Sea oil revenues which they described as the "nation's life-blood."

Dr David Owen, the SDP leader, said the Government had spent North Sea oil revenues on tax cuts rather than investment in education, technology and research.

He said that in a balanced parliament North Sea oil would be one of the main items on the agenda.

THE ISSUES; HEALTH CARE

Emotional party pleas mask convergence in thinking

BY JOE ROGALY

THE National Health Service has stimulated the most emotional arguments in the election campaign. This is inevitable, since, prescriptions aside, its facilities are free, and demand is potentially unlimited. The tendency for politicians to outbid one another is built in.

Yet the Labour Party's willingness to juxtapose the illness of a small boy unable to receive *urgent attention* with the Prime Minister's ability to get private care when she wants it takes the auction *further into* the land of cynical exploitation than it has travelled for some years.

It is better to look at the facts. On *the face of it spending* on the health service has grown rapidly under the *Conservatives. They claim to have* increased it from £8bn planned by Labour for 1979 to £21bn this year—a *rise* of nearly a third in real terms. They must have meant to include personal social services, since 1987-88 NHS expenditure is set to be of the order of £16bn.

Both opposition parties insist that, whatever the amount, it has not been enough. Pay in the NHS has risen more *rapidly than the Retail Prices* Index. Drug costs shoot ahead at their own inexorable pace. *Against such measures* the growth in the volume of service provided has been far less than a third — possibly not much more than 5 per cent, according to Mr John Hills, writing in The Growing Divide, published by the Child Poverty Action Group yesterday.

The increase in the number of very old patients pushes the *cost of services up by at least* 0.7 per cent a year. Keeping up with medical advances adds another 0.5 per cent. The cost of reallocating resources from London to the regions, under a programme by the last Labour Government, adds yet more.

The Tories maintain that the savings from greater efficiency —brought about their introduction *of "g management"* will offset some of this. The net effect, however, is that in spite of many extra billions of pounds spent the public perception of a service that is run down has some basis in fact.

Labour proposes to increase the health budget by the rate *of inflation* plus 3 per cent, although it does not specify where the money is to come from. *Part of this expenditure* will no doubt be counted within what is referred to in the *manifesto as a "priority* programme" to create jobs. The promise is that 300,000 new jobs "will improve the health and education services and the neglected community and caring services."

The Alliance says that it will increase the NHS budget in such a way that by year five it will be £1bn a year higher than *is being planned by the Conservatives.* This probably works out at 2 per cent extra, against Labour's 3 per cent. It is part of the programme costed for the Alliance by outside auditors.

After "cuts" (i.e. spending), the most emotive item on the health service policy agenda is *private medicine.* Here there are distinct differences between the parties. The Conservatives do not emphasise active encouragement of insurance-based private health care, but the record indicates that the number of persons covered by such insurance has about doubled, to some 5m, since 1979. That still leaves more than 90 per cent of the population wholly dependent on the NHS.

The Alliance says it upholds the *right of individuals* to pay for private care, "but we will not allow private medicine to exploit the NHS by *using facilities* at susbidised cost." Dr David Owen, the Social Democratic Party leader, was even tougher on private medicine when he was a Labour junior minister for health under Barbara Castle.

The Labour Party would also remove subsidies from private patients using NHS facilities. It would begin *to phase out pay* beds—the cautious language is perhaps a throwback to the historic compromise with the doctors made by Mr Aneurin Bevan when he founded the service. Consultants have always had the freedom to hop between private and public patients at will.

Another emotional issue is the level of *prescription charges,* which rose *from 20p in 1979 to* £2.20 per item in 1986. The proportion of patients paying the charges fell from 37 per cent to 19 per cent in the same period. The reason is that pensioners, children under 16 and people on social security do not pay.

Even so, Labour will start to *reduce prescription charges,* with a view to eventual abolition. The Alliance will not *increase them beyond the rate of* inflation. The Tory record suggests that they have no such inhibitions.

They all make promises on *waiting lists.* The Tories have their "special £50m two-year programme", but do not explain why it has taken eight years to put it in place. Labour offers a speedy reduction, using *computers to allocate beds and* "encouraging" more consultants to work full time for the NHS.

The Alliance promises to reduce the maximum waiting time to one year within two years of taking office, and then to halve it during the rest of their term. They will appoint more hospital doctors, ask consultants *to give priority to their NHS* waiting lists, move patients between districts — and use computers.

All three parties emphasise a commitment to *community care* — ie care in the home or by home visitors — particularly for the elderly or handicapped. Labour and the Alliance propose *a special "carer's benefit",* although the amount remains to be specified. The Government *has failed to provide enough* cash to build up community care while running down institutional care.

There remains a list of specific propositions, some held in common. Thus both opposition parties propose *"well-woman clinics"* for *screening* for cervical or breast cancer; propose to "complete the network" of *computerised call and recall* screening systems.

Labour will step up "the fight against AIDS;" the Alliance will ban advertising of tobacco products; the Tories will continue to put ancillary services out to competitive tender.

Thus the cold facts show that behind the emotional appeals on the National Health Service *the differences between the* parties are not profound.

Labour to seek quicker upgrading in schools

BY OUR POLITICAL CORRESPONDENT

*THE Labour leadership yester*day acknowledged that standards of educational achievement had risen under the Tory administration but launched an attack *on the Government's* proposals for improving the quality of schooling in Britain.

Mr Giles Radice, the shadow Education Secretary, said in *Birmingham that, at every level* of examinations, standards had been rising and that he did not share the *apprehension of Mr* Kenneth Baker, the Education Secretary, that they had declined. He said Labour was, however, concerned to raise standards more quickly because it wanted to see that the potential of every child was advanced and developed.

Mr Neil Kinnock, the Labour leader, agreed with Mr Radice that standards had improved but claimed that the achievements of the educational system had been made in spite of, and not because of, government policies.

He said that, in the face of continuing cuts in funding, the teaching profession had, year on year, managed to improve *the quality and quantity of* examination passes. Ministers had showered contempt and *insults on* teachers by refusing to acknowledge their needs and by suspending their negotiating rights.

The Tories, Mr Kinnock claimed, were *motivated by* their prejudices against the maintained system and displayed a "*permafrost ignorance* of everything to do with the way maintained schools *operate.*"

He said Labour was committed to boost spending on education by £500m, a figure which was built in to its £6bn a year recovery programme. The funds would be channelled towards the provision of more teachers and *ancillary staff.*

Mr Kinnock said the Tories were offering Britain's schools and children "a mixture of a leap in the dark and a kick in the teeth." The Government's proposals, he continued, were muddled and ill-thought out and the full implications had only become clear when Mrs Thatcher had "blurted out the truth of her "pay as you learn" scheme.

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THE ARTS

Carter/Almeida Festival

Andrew Clements

Elliott Carter's Fourth String Quartet was new last year, given its first performance at the Miami Festival in September by the Composers Quartet, one of the three groups that jointly commissioned it. A later performance at Vassar College in New York State was described here by Andrew Porter, who hailed it as "a major work, destined to enter the international repertory, as its predecessors have done." On Sunday evening it arrived in Europe at the Almeida Festival, played with a panache and precision by the Arditti Quartet that might have been the product of many years' familiarity.

As Porter observed, the Fourth Quartet continues the more relaxed vein of expression that Carter first opened in *Triple Duo* and *Penthode;* ideas are given space in which to articulate themselves, textures and harmonic aggregate are less densely packed. Though the idea of casting the four instruments as role players, each with a well-defined musical character and personal harmonic and rhythmic world, harks back to the Second, there is much to remind one also of Carter's First Quartet and the ending of the new score — high sustained chords in the violins while viola and cello break through the serenity with more violent gestures — seems almost like a conscious remembrance of the still centre of that earlier work to be found in its slow movement.

The Arditti had begun their programme with Carter's Third, and the opportunity to hear the two quartets in such close proximity only enhanced the contrast between them; where the Third demands attention from its opening bars and never lets go, the Fourth allows more room for breath.

It is punctuated with silences of varying length—some of them barely marked, others clear points of articulation—though the division into four movements is by no means absolute as moods, ideas, are allowed to interpenetrate. The impression is of a structure elegantly and exactly tailored to its material, whereas the Third seemed barely able to contain everything the composer had poured into it.

In many ways the result is the most approachable of the canon, approachable in the sense that its landmarks are well defined, its gestures lucidly presented. How many quartets take it into their repertory remains to be seen, though few, I fancy, will present it with the aplomb of the Arditti.

In an earlier concert members of the Arditti with the pianist Yvar Mikhashoff had given a programme of works by the 66-year-old American composer Ralph Shapey. Shapey has forthright views on the current condition of American music and society, views with which he regaled his audience in a pre-concert talk. These have not helped his cause in the establishment over there, any more than the moratorium he imposed on performances of his music in 1969, as a protest against what the programme book described as "the steadily deteriorating ethical standards in the music world and the world in general." That decline, Shapey revealed, he identified with the Vietnam War, and the embargo was lifted in 1976.

A personality so convinced in its views ought to generate some highly flavoured music, and some of Shapey's earlier scores have acquired a reputation for rebarbative dissonance coupled with grand expressive gestures, kindling hopes of some kind of latter-day Carl Ruggles. But little of that was conveyed by the Almeida selection; only a String Trio from 1963 made a really satisfying whole, with material and structure consistently shaped. The more recent pieces had far less substance; the language is akin to that of Stefan Wolpe, but lacks his intellectual rigour and sheer emotional weight. What had promised to be one of the most intriguing elements of the Almeida season failed to catch fire.

*

I concur with everything Andrew Clements wrote last week about Wolfgang Rihm's 9-year-old opera *Jakob Lenz:* and on Saturday we were further enlightened by a hyper-rich conspectus of Rihm's chamber music, from his 1977 *Music for 3 Strings* through his *Fremde Szenen* (foreign scenes) for piano trio to his Quartet no. 7 ("Veränderungen"—not just "variations" but "transformations"). Any other festival that finds itself with a sudden hole should fill it at once with *Lenz* or some of the Almeida chamber music. Such superlatively prepared performances deserve longer runs. Mikhashoff, at the piano, and the Arditti Quartet outdid themselves.

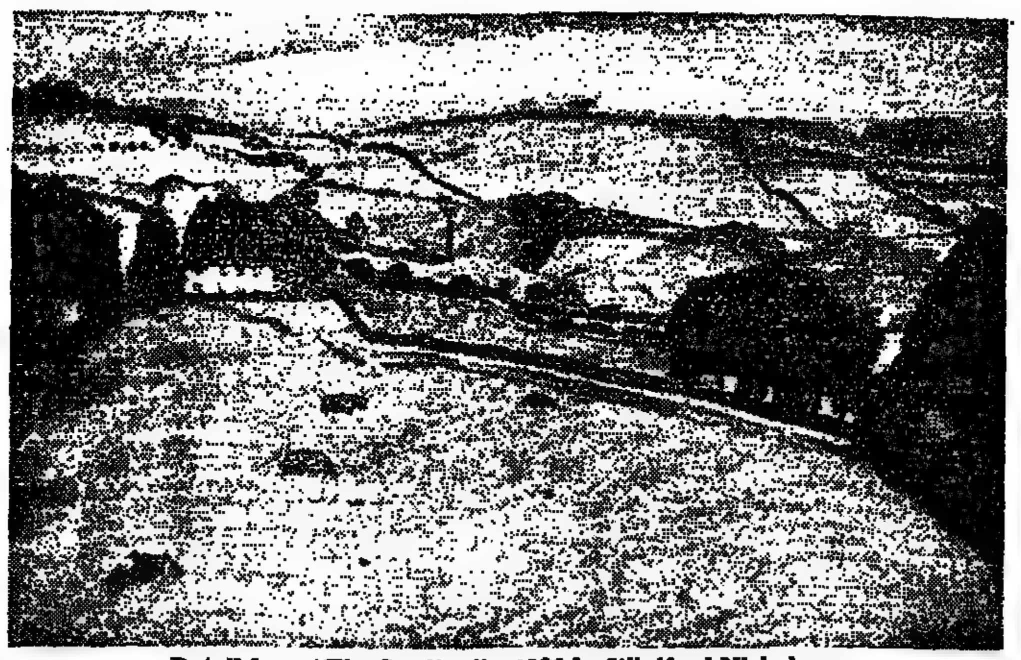
Close to an hour long, *Music for 3 Strings* is a sort of epic musical self-examination. The three movements of Part 1 begin by testing out intervals, close-position chords, uneasy balances (the Arditti players took up each other's notes with uncanny precision), all in an atmosphere of fraught intensity, and later a stabbing rhythm is added. Counterpoint arrives only with the winding "canzonas" of Part 2, of which the last shivers away on a still height. Part 3 undertakes some searching recapitulation, but its dramatic mode moves more and more towards protecting rhetoric—angry pauses, truculent repetitions, a long, obsessive final ostinato (something which becomes a tic in later Rihm).

Rihm's piano trio in the three *Fremde Szenen* always remembers its romantic history, while rebelling against it. The first is again concerned with diatonic intervals — handled with rigorous care, like live grenades — but acquires a dance-tune at the extreme ends of the keyboard, like Shostakovich's in his piano trio. In the second, all the patented devices of Schumann are flung into the riot and dislocated: not parody, but furious confrontation. This is a sumptuous, crazily dense score. The third *Szene* assimilates the manners of middle-period Verdi, too, and struts them balefully.

With the Seventh Quartet we arrived, exhausted, back at "pure" Rihm again (plus woodblocks, thwacked at junctures by some of the players: the last cello-statement took place under relentless bombardment). By now there is as much high-tension theatre as musical argument; there is a well-established fund of Rihmish gestures, and the prolific composer draws upon it semi-automatically. For the music to work, performers like the Arditti are essential, and maybe also chamber-intimacy — Rihm's orchestral pieces do not seem to seize one's attention with comparable force.

Certainly Rihm's "Bann, Nachtschwärmerei" made a limp impression in the organ recital by Christopher Bowers-Broadbent later. The sober radiance of Arvo Pärt's piece for Speyer Cathedral, *Annum per Annum*, was much more securely achieved. Twenty minutes of ostinati from Morton Feldman, *Principal Sound*, seemed intolerably arid after a surfeit of Rihmian ostinati. There were colourful but slight pieces with tape by Krenek and by Douglas Dougherty.

David Murray



Detail from "The Swaites," c 1923 by Winifred Nicholson

London Galleries/William Packer

Latterday impressionists

Impressionist is no exact term: we use it after the fashion of Humpty Dumpty, to mean "just what (we) choose it to mean—neither more nor less."

The Tate Gallery is giving a small retrospective exhibition (until August 2) of the work of Winifred Nicholson, who died in 1981 at the age of 87. She was Ben Nicholson's first wife, by whom she had three children, and remained married to him throughout the 1920s when he first became something of a force in British art.

She kept in touch with Nicholson after their separation in the early 1930s and continued active as a painter until her death, but the period of her marriage—when she was most directly concerned in the activities of an influential avant garde and even something of a force herself—was when the character of her work was set and much of her best work done.

Impressionism, and post-impressionism, fauvism and cubism, expressionism and surrealism had come and gone by then, and the Nicholsons would hardly have thought of themselves as more latterday impressionists. But now when we look at that early work, including the forceful, knowing and elegant paintings that came from their interest in the *faux naif*, their association with Christopher Wood and discovery of Alfred Wallis, it is impressionism in its wider sense which comes most readily to mind.

There might not be quite the particularity of mood and observation that comes with thorough-going impressionism: there is much in the work of the hedonistic, ideographic simplicities of fauvism and the self-conscious immediacy of expressionism. But with hindsight such qualities can be discerned in the truest of impressionists, especially in their drawings, studies, and sketches.

Winifred Nicholson's work, for all her conscious stance as an up-to-the-minute post-impressionist, moves the other way. The landscape, or the pot of flowers on the window sill, are seen and felt just as they are when the weather and light catch them at a certain time of day, an experience and a sensation, albeit transient and modest. She was no great painter, her gift delicate and decorative rather than substantial, but in this she was influential, setting a way of working the image that many women painters in particular still follow.

The figure she rendered not so much clumsily as blandly, curiously drained of the individuality with which she invested her flowers and pots. Her modest talent did not grow over the years, though her interest and commitment became no less sincere. This show stretches her a shade too thin but the first two rooms, full of those pots of flowers, are delightful. No artist is less of an artist for remaining so true to herself.

Concurrently the Crane Kalman Gallery in the Brompton Road is also paying tribute to Winifred Nicholson (until July 4) with a choice show of work by her and her immediate circle—Ben of course, and Paul Nash, Alfred Wallis, Christopher Wood and David Jones among others.

The new Taylor Gallery has opened in the Royal Arcade, off Bond Street, with a show of American Impressionist Paintings (until July 4) organised in association with the Berry-Hill Galleries of New York. It is the first exhibition of work so designated that I know of in London, but that is not to say the work is obscure or the artists unknown. American Impressionism is no American phenomenon, but simply the work of those American artists of the late 19th and early 20th centuries who, like their peers in every other country from Canada and Scotland to Finland and Japan, studied abroad and in particular Paris. The American classification is loose enough here for even the Irish-American-Canadian Shannon to be claimed within it.

These cosmopolitans make for an heterogeneous bunch, more interesting as individuals than for the putative connection. By this aperitif most would warrant a fuller study, from the Whistlerian Childe Hassam, Merritt Chase and Prendergast to Twatchman and Vonnoh and the later, more obviously expressionist Sloan and Bellows. Small as this show is, each of these artists is represented by extremely fine examples, especially the flickering Autumn landscape of Robert Vonnoh. This show is most welcome with, we hope, much more to come.

In setting the line back through their own work directly to Degas, Sargent and Whistler worked as great an influence upon British as upon American painting, but in England there is Degas' other pupil to consider, Walter Sickert. Though much discounted in recent years his influence, filtered through Camden Town and on down the Euston Road, remains an honourable tradition within which serious and most accomplished artists still work. Ken Howard is one of them, whose work grows stronger the more we see of it.

His latest show, of landscapes and studio interiors, has had all too short a run at the Oscar & Peter Johnson Gallery in Lowndes Street SW1 (until June 12), but it is strongly recommended for the demonstration it makes of direct and honest observation and beautiful tonal painting. He continues to explore his obsession with his studio interior and the figure seen against the light, but his large beach paintings come as an impressive surprise. Most remarkable of all, however, for the freshness and simple authority which they bring to what can so easily be the most trite and hackneyed a subject, are the watercolours of Venice, homages to Whistler and Turner that are quite his own, tiny *tours de force*.

American play wins Tony Award

On Sunday night in New York the Tony Award for the best play went to an American playwright, August Wilson, for *Fences*, compared with a sweep of the other major categories by British nominees.

But in winning the Tony in the only seriously contested category, *Fences* confirms the effort to encourage young American playwrights with an interest in serious themes at the expense of yet another worthy British import: Christopher Hampton's *Les Liaisons Dangereuses*, which got no Tonys, while *Fences* walked off with four; for best director (Lloyd Richards), best leading actor (James Earl Jones) and best featured actress (Mary Alice).

The musical winners were much more predictable, with *Les Miserables* getting eight, including best musical, best music, direction, book and featured performances. *Me and My Girl*, a solid hit that opened at the very beginning of the season last summer, won three awards, including best actor for Robert Lindsay and best actress, Maryann Plunkett.

The best revival was Arvin Brown's Long Wharf production of *All My Sons*, a moving postwar testamonial to Arthur Miller's strong characters and involved plots. Despite a seriousness to the ceremony that for the first time eschewed glitzy videos, the Tonys once again reminded Americans of how much its theatre life depends on imports from subsidised British companies.

Frank Lipsius

La Boheme/Covent Garden

Max Loppert

La Bohème is one of the works the Royal Opera commonly does well. On Saturday, at a gala (in aid of the British Kidney Patients' Association and the house itself) marking the start of the latest revival, the company did it uncommonly well. Three of the John Copley production's original (1974) cast had been reassembled: Placido Domingo, Gwynne Howell, Thomas Allen (Schaunard then, Marcello now). One of the most experienced of the day's Italian opera conductors, Guiseppe Patanè, was back in the pit.

It was not exactly a youthful, pointed, fresh-eyed dramatic reading such as the regional companies have recently been showing us; the age of the leading men and the wide canvas of the staging (now in the care of Richard Gregson) confer an inevitable "big-house" aggrandisement of scale. But on its own terms it was a most beautiful and involving account of the opera—weighty and crude, based on Puccini singing broad without being heavy or delicate and detailed as well as strong and certain. Mr Allen's Marcello summed up the tone: an easy master of the music and the stage space (his comic timing is, as always, a delight), but never casual in his confidence.

Ilona Tokody, returning to the title role, follows Julia Varady and Eva Marton in the line of singers from Eastern Europe who have so noticeably brightened this season's Royal Opera array. She is small, intense, fine-featured, vulnerable, with a heartbreaker of a smile; the low register has a Scotto-like smoky sensuousness, the top is occasionally squally (also on the Scotto model, though still contained), the way with words is exquisitely potent. The Hungarian soprano is a colourist who finds the inner emotional rhythm of Puccini's phrases; of all the singers on stage she seemed to inspire Mr Patane's collaborative enthusiasm most, and in Act 3—the peak passage of the evening — the two made "D'onde lieta usci" one of the most tenderly detailed and moving this production has offered.

Domingo, in fine voice (apart from a hasty retreat from the climax of a downwardly-transposed "Che gelida manina"), does not discover in Rodolfo one of his most fulfilling assignments. The presence is warmly genial, not ardent or romantic; the strength of pain he is now able to suggest proves almost more powerful than the role can properly bear (an Otello-like howl of distress on Mimi's Act 4 entrance was alarmingly visceral). But his mature artistic authority carries its own irresistible aura and in Act 3 he too was at his most specifically expressive.

A lively new Schaunard (Roderick Earle) and Musetta (Rosamund Illing in her house debut, pinpoint-accurate, not ideally vivacious): the quiet excellence of Mr Howell's Colline has been praised many times before, and needs to be once again. This week's two *Bohèmes*, part of the latest Midland Bank Proms, will also be relayed onto a screen for the benefit of viewers in the Covent Garden piazza.

Music for a royal wedding/Radio 3

Max Loppert

The 200th anniversary of the death of Gluck, one of the great creators of opera, falls in November; the date is being ignored by all the main British opera companies, to their discredit. But not by the BBC, to its great credit: this weekend Radio 3 covered itself in Gluckian glory by offering on two successive days three works — a full-length *opera seria*, a one-act comic *serenata*, and a ballet score — in what are thought to be their first performances in modern times (as all three are in the Bärenreiter Gluck Edition, it's unwise to be too firm about such a claim). All three are works of high quality, and all threw new light on a composer too easily fixed in a single music-history categorization, that of operatic reformer. It was an exciting weekend.

The circumstances that brought all three to first performance, in the space of a single fortnight in 1765, are themselves revealing: the second marriage of Franz Joseph II, celebrated at Schönbrunn, for which Gluck (an employee of the Habsburg court) was required to devise suitable entertainments. That he managed to do so at all acceptably in the time provided is a reminder that his professionalism was hard won (in his long early period as a travelling composer), and prodigious. In the delightfully euphonious *serenata, Il Parnaso confuso*, the four Muses were to be played and sung by four royal princesses, the youngest no more than 13: the flattering of the voice of Maria Charlotte alias Erato is in itself a brilliant virtuoso feat. (Metastasio's text is full of workers' in-jokes: the Muses agonize over the short time available for putting the piece together.)

At least two of the three works are of exceptional power and fascination. *Telemaco*, the *opera seria*, might fairly be called the "missing link" between *Orfeo* (1762) and *Alceste* (1767). Coltellini's libretto is feeble, and runs badly dry of motivating force in the second of its two acts (of the three wedding works *Telemaco* alone failed, and was not repeated). In spite of this, the score bursts with quintessentialy Gluckian dramatic strokes and short-cuts, with the inspired melodic plainness in which character and emotion are revealed (the sorceress Circe comes early in a grand Gluck line of glittering, love-torn female portraits).

Wherever an opportunity arises for cutting across formal patterns to create long movements—as in the seamless end of Act 1—Gluck seizes it with impatient vitality. *Telemaco* proves what other earlier works in the form also suggests that the great Reformer of *opera seria* loved and understood the medium he was undermining, and that in his best works he looked, uniquely long and hard, as much to the past as to the future.

But the ballet score, *Semiramis*, is if anything even more remarkable. The second of his two notable collaborations with the great choreographer Angiolini (the first, *Don Juan*, is being played at this year's Proms), it is half-an-hour of starkly dramatic gesture, of dance-drama graphic in intensity, into which a modified version of the Voltaire play is condensed. All the *Semiramis* music was to be redeployed in *Iphigénie en Tauride* (as was much of *Telemaco* in *Paride ed Elena*, *Iphigénie en Aulide*, and especially *Armide:* Gluck was never a man to let striking ideas lie fallow). The claustrophobic atmosphere and guilt-ridden characters of both ballet and late operatic masterpiece make them twin works.

To all three works Roger Norrington and the London Classical Players brought an ideal stylishness, command of pace and timing, awareness of musical and dramatic character; operatic recitative was deftly paced, even if a native Italian or two in the casts might have made the passages of *secco* even more vivid. There were one or two mimsy Early-Music-specialist voices about, but John Aler and Eiddwenn Harrhy in *Telemaco*, Patrizia Kwella (despite technical hiccups) in *Parnaso*, and Nancy Argenta in both operas were all clear, expressive Gluck singers. The cap of Clive Bennett, Radio 3's chief opera producer, is now stuffed with feathers.

Beaux Arts Trio/Wigmore Hall

Dominic Gill

Friday's Wigmore Summer Nights recital should have been nothing more than one of the happily and regularly predictable appearances of the Beaux Arts Trio that have so delighted London audiences for more than 30 years. But it was a sad occasion too: for it marked the departure of the ensemble's cellist Bernard Greenhouse, and thus the last London appearance of the piano trio as we have know it constituted — which means in essence its final public recital in the British Isles.

My colleagues and I have written so frequently on this page of the Beaux Arts and have described their virtues in such plentiful detail—and their work is also widely known and recorded — that a valediction in the form of an introduction is hardly called for. Enough to say that their final recital was a triumph, and that it will forever do justice to their memory.

The Beaux Arts are one of those rare and unforgettable chamber ensembles who live, eat, sleep and breathe music-making from every pore. Nothing they play is dull or routine as a result, they may have good nights, and they may have better nights — but every performance they give bears the mark of an unflagging passion and commitment to their task. Their account of Beethoven's op 1 No 3 at the start of the evening on Friday had a marvellous freshness and intensity; and they continued, allowing themselves hardly a pause for breath, with Ravel's trio: bright-toned, buoyant, wonderfully deft and observant in every detail — the "Pantoum" especially, and the delicately animated finale, alive with Scarbo-like fantasy.

One's only secret regret was that the Beaux Arts did not end their farewell programme with a performance of the Chaikovsky trio, which has always been one of their principal glories. But their account of Dvorak's F minor trio op 65 was so full of life and energy, so bright with vivid colour, and so full of soaring rhythmic impetus, that it was no more than a passing thought. A pair of brief encores allowed Bernard Greenhouse to remind us, as he had already done in the Ravel, of his sumptuous cantible in the middle cello register: and then, to a standing ovation, they were gone.

Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

June 8–June 11

Opera and Ballet

LONDON

Royal Opera, Covent Garden: Placido Domingo returns to the Royal Opera's La Bohème (he was the first Rodolfo of the Copley production, in 1974), alongside Ilona Tokody, Thomas Allen, and Rosamund Illing (house debut); Giuseppe Patane conducts. Another revival of the house's mildly amusing Barbiere di Siviglia introduces Lucia Valentini-Terrani, Leo Nucci, and Paata Burchuladze to London in these roles; Gabriele Ferro, an excellent Rossinian, returns to the production. Further performances of the new Manon, with Julia Migenes and Neil Shicoff, conductor Jeffrey Tate. Performances June 8-13 form the latest series of Midland Bank-sponsored Proms, with 700 standing places made available in the stalls.

English National Opera, Coliseum: Shostakovich's Lady Macbeth of Mtsensk, in the new production by David Pountney conducted by Mark Elder, is one of the most spectacular shows the company has put on in recent times. Josephine Barstow, giving one of the greatest performances of her career, leads a splendid cast. Two other Pountney productions, both of them rather less rewarding artistically, continue in repertory: the rubbish-dump Carmen, with Jean Rigby and Arthur Davies; and the Gerald Scarfe-designed Orpheus in the Underworld.

PARIS

Merce Cunningham Dance Company followed by Hamburg Opera's ballet with John Neumeier. America's most European neo-classical choreographer Theatre de la Ville (42742277)

Der Fliegende Holländer followed by American choreographers' soirees - Karole Armitage, Alwin Nikolais, David Parsons, Daniel Ezralow, William Forsythe. Paris Opéra (42665022).

Boris Godunov in a grandiose performance by artists of the Warsaw Opera at the Palais des Congres (4156 1333).

WEST GERMANY

Frankfurt, Opera: Eugen Onegin has Benjamin Luxon, brilliant in the title role. Don Giovanni, conducted by Peter Hirsch brings Faye Robinson, Susan Roberts, Benjamin Luxon and Franz Mayer together. Parsifal in Ruth Berghaus' production with Gail Gilmore, Walter Raffeiner and Manfred Schenk. Die Soldaten returns with Nan Christie, Ilse Gramatzki, June Card and William Workman. Busoni's rarely played Doktor Faust features Günter Reich in the title role beside William Cochran, June Card and Heinz Hagenau singing other parts. Die verkaufte Braut rounds off the week.

Cologne, Opera: Das schlaue Füchslein, newly produced by Harry Kupfer, has fine interpretations by Roland Hermann, Eva Tamassy, Janice Hall and Randall Outland. Tannhäuser is an event of more than passing interest with Wolfgang Brendel, Klaus König, Mathias Hölle, Nadine Secunde and Valentin Yahr. The week also features Andrea Chenier.

Stuttgart, Württembergisches Staatstheater: The Magic Flute has Raili Viljakainen, Matthias Hölle, Peter Schreier and Raymond Wolansky. Martha is a well done repertoire performance. Madame Butterfly has Maria Russo, Carmen Mammoser and Wolfgang Schöne in the main parts. Also offered Die Fledermaus.

Munich, Bayerische Staatsoper: There was much applause for Jean-Pierre Ponnelles' production of Turandot, when it opened. The cast includes Ghena Dimitrova, Mirella Freni, Lando Bartolini and Nicolai Ghiaurov. La Cenerentola stars Doris Soffel, Julie Kaufmann, Claes H. Ahnsjö and Alberto Rinaldi and the Scala choir. Die Götterdämmerung has a particularly strong cast with Ute Vinzing, Lisbeth Balslev, Brigitte Fassbaender, Rene Kollo and Martti Salminen. The Magic Flute closes the week.

ITALY

Milan: Teatro alla Scala: Hindemith's Cardillac conducted by Wolfgang Sawallisch and directed by Jean-Pierre Ponnelle, with costumes by Pet Halmen. The cast includes Waltraud Meier, Cheryl Studer, Donald McIntyre and Robert Schunk, with the Munich Staatsoper choir. (80 91 26).

Naples: Teatro di San Carlo: Santa Lucia: Misha van Hoecke's ballet based on Neapolitan popular songs, danced by the San Carlo Ballet Company, with the Ballet-Theatre l'Ensemble, directed by Roberto de Simone (797 2412).

Genoa: Teatro Margherita: Carla Fracci in a much-criticised production by her husband, Beppe Menegatti of The Three Sisters (589 329).

Turin: Teatro Regio: Barber of Seville directed by Michael Hampe, with scenery by Ezio Frigerio and costumes by Mauro Pagano. Bruno Campanella conducts a cast which includes Luciana Serra and Enzo Dara. (548 000).

Venice: Teatro al Fenice: Lohengrin conducted by Gustav Kuhn in Pier-Luigi Pizzi's production, with Gail Gilmore, Peter Hofmann, Hans Sotin and Franz Ferdinand Nentwig (710 161).

Bologna: Teatro Comunale: Pierluigi Samaritani's production of La Rondine conducted by Thomas Fulton, with Fiamma Izzo d'Amico, William Matteuzzi, Paolo Coni and Bruno Beccaria (529 999).

Florence: Teatro Comunale: (50th Maggio Musicale): Monteverdi's Return of Ulysses conducted by Bruno Bartoletti and directed by Giulio Chazalettes, with scenery and costumes by Ulisse Santicci. The cast includes: James King, Alessandro Verducci, Julia Hamari, Marta Szirmay, Richard Stilwell and Martine Dupuy (277 9236).

NETHERLANDS

Amsterdam, Muziektheater. The Netherlands Opera presents Die Fledermaus, directed by Johannes Schaaf and designed by Andreas Reinhardt, with the Concertgebouw Orchestra under Nikolaus Harnoncourt, the National Ballet choreographed by Jürg Burth, and soloists Brigitte Poschner (Rosalinde), Werner Hollweg (Eisenstein), Christian Boesch (Frank), Eve Lind (Adèle), and Neil Rosenhein (Alfred). (Wed). (255 455).

Amsterdam, Stadsschouwburg. The Hamburg Staatsoper with a double bill of Von Zemlinsky operas: Eine Florentinische Tragödie and Der Zwerg. Directed by Adolf Dresen and designed by Margit Bardy, conducted by Gerd Albrecht, with the choir under Jürgen Schulz. Soloists include Victor Braun, Kenneth Riegel, Elisabeth Steiner, Olive Fredericks and Béatrice Haldas (Tue). (24 23 11).

Amsterdam, Soeterijn Theatre (Linnaeusstraat 2). Bantu music and dance from Mozambique (Tue). (56 88 500).

NEW YORK

American Ballet Theatre (Metropolitan Opera House): Cynthia Gregory, Marianna Tcherkassky and artistic director Mikhail Baryshnikov return for the spring season of mixed programmes, including company premieres of Sunset choreographed by Paul Taylor to Elgar and Enough Said, Clark Tippet's choreography to George Perle's music. Lincoln Center. Ends June 13. (362 6000).

New York City Ballet (New York State Theater): More than 40 works by Balanchine, Robbins, Peter Martins and other choreographers will be part of the two month-long 38th season, including two new works by Martins set to music by Handel and Michael Torke. Ends June 28. Lincoln Center (870 5570).

Saleroom/Antony Thorncroft

What goes up...

A rare signed miniature by Nicholas Hilliard of Edward Seymour, Earl of Hertford, sold for £46,200 yesterday at Sotheby's to an anonymous buyer. The tiny miniature, 1¼ inches high, was dated 1572, making it a very early example of the work of this great name among British miniature artists.

Sotheby's sold it 10 years ago when it realised £70,400, confirming that works of art, even of the highest stature, can fall in price, although that auction was slightly exceptional, with two keen buyers fighting for the miniature. The price yesterday was close to Sotheby's top estimate, reflecting the good condition of the piece.

The market for miniatures is modest, but Sotheby's auction did quite well, totalling £234,421, with 5.43 per cent unsold. A portrait of Miss Alemila Darrell, captured by John Smart in 1784, was just above target at £10,450 while a later work of Smart, dated 1809, this time of Colonel Charles Reynolds, made £9,020.

A miniature of Thomas Weld, a young man who renounced his wealth in middle age to join the Church later to become a Cardinal, sold for £6,600: it was painted by Augustin, and dated Paris 1819. The Swiss dealer, Bucher, paid £6,280 for a portrait of a lady painted in 1776 by Jean Laurent Mosnier.

Meanwhile Christie's was disposing of Chinese ceramics, the first of a series of auctions designed to tempt the collectors arriving in London for the International Ceramics Fair and Seminar later this week at the Dorchester. The morning session totalled £578,295, but with 25 per cent unsold.

A Yuan blue and white baluster jar of comparatively rare shape and dated to around 1350 sold for £154,000 to the Hong Kong dealer Robert Chang, who is exhibiting at the Fair. The price was near the lower end of the estimate. A pair of red, green and yellow lacquer table chests of the 17th century, sent for sale by Princess Alice, Duchess of Gloucester, was bought by the Japanese dealer Daijindo for £41,800, as against a top estimate of £7,000.

A London dealer S. Marchant, paid £40,700, at the very bottom end of the estimate, for 11 famille verte month cups. The series is missing the first and fifth months, and the fact that there are two of the third month is of little help. Covered with flowers they are very decorative. A pair of Doucai wine cups went for £23,100 to the Hong Kong dealer, Mr Chan. The price was twice the estimate.

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Cohabitation under strain

IT IS VERY difficult to see what Mr Jacques Chirac, the French prime minister, has achieved by last week's dramatically-staged confrontation with his minister of culture, Mr Francois Leotard, unless the exact opposite of what he set out to achieve. He presumably intended to re-assert his authority over the Government by calling an over-ambitious subordinate to heel, but he has ended up allowing Mr Leotard to remain in the Government essentially on his own terms.

The casus belli was an interview with Mr Leotard published on Monday of last week in the news magazine Le Point, in which the minister — who is also the leader of the Parti Republicain — said that he was considering standing for president himself in next year's election, since the only alternative for his party would be to support Mr Raymond Barre. He thereby ruled out the possibility of supporting Mr Chirac on the first ballot; and he also addressed some "reproaches" to Mr Chirac, suggesting he was too much under the influence of the "soldier monks" of his own Gaullist party who "have a taste for undivided power and like to work on the basis: 'Whatever is ours is OK, whatever is yours must be discussed.'"

Openly critical

The irony is that the main thrust of the interview was directed against Mr Barre, and that if Mr Leotard were to stand for president next year he might actually improve Mr Chirac's chances of pulling ahead of Mr Barre on the first ballot, by splitting the non-Gaullist conservative vote. Only a year ago Mr Leotard, who is the most prominent figure among the younger generation of politicians in the right wing half of the French political spectrum and also the acknowledged leader of the "liberaux" (free-marketeers) seeking to break with the longstanding dirigiste tradition in postwar French economic policy, was seen as Mr Chirac's most faithful ally outside the ranks of his own party, and even as a strong candidate for prime minister if Mr Chirac succeeded in becoming president next year.

But the experience of working together in government has clearly brought disenchantment, leading Mr Leotard and his friends to doubt the strength of Mr Chirac's commitment to "liberalism" in both the economic and the social-humanitarian sense. When the student crisis erupted last winter "Leo's gang" were openly critical of the Government's university reform bill, and Mr Leotard himself was one of those who put most pressure on Mr Chirac to withdraw it.

Pressure maintained

On issues of substantive policy there is no reason to think that Mr Chirac disagrees strongly with any of Mr Leotard's views. His problem is to reconcile opposing views within his Government, and indeed within his own party, under the triple pressure of Mr Jean-Marie Le Pen's National Front on his right, of the Socialists, exploiting the prestige and false neutrality of President Mitterrand, on his left; and of Mr Barre mouthing "I told you so" from behind his back.

His choice of the authoritarian Mr Pasqua as interior minister was a deliberate bid to neutralise the National Front by robbing them of their strongest propaganda themes—immigration and law-and-order—and to balance the appointment of liberals or "wets" (as we should say) to important posts in economic and social policy. But Mr Le Pen has maintained his pressure and Mr Pasqua's efforts to rival him in xenophobic rhetoric have caused increasing unease among the liberal wing of the Government, expressed forcefully last month by the trade minister, Mr Michel Noir.

That explains, but cannot excuse, Mr Chirac's irritability and his over-reaction to remarks which were probably not intended as a direct challenge to his authority, but which he succeeded in transforming into one. The net effect is to demonstrate once again how difficult it is, in the Fifth Republic, to hold a governing majority together when its leader is not the President but a presidential candidate, and also to cast greater doubt on Mr Chirac's own fitness for the role of national leader, as opposed to that of chief of staff which would be that of a French prime minister under more normal circumstances.

Challenges for City regulators

UNTIL NOW, most criticism of the Financial Services Act has centred on its initial implementation, and there is still some way to go in terms of the approval of the rule-books of the self-regulatory organisations, and the processing of membership applications.

But increasingly the debate is now going to be focused upon the operation of the Act in practice, and Mr Charles Goodhart, a former senior Bank of England adviser, has set the tone with an attack on the high costs being imposed by the Act on Britain's financial services industry.

Speaking at a conference organised by the Institute of Economic Affairs, he was concerned that the legislation will prove repressive in that it will stifle competition and innovation, a fear also recently expressed in some aspects by the director-general of the Office of Fair Trading, Sir Gordon Borrie.

This is all a question of degree. Any regulatory system must reduce competition to some extent, simply by restricting what people can do. But the new regime has been deliberately designed to be flexible.

Framework in place

That is, after all, the point of its self-regulatory emphasis, with powers delegated by the Secretary of State for Trade and Industry to the Securities and Investments Board and then, in a second step, to the group of SROs.

The framework for sensitive implementation is there. But how will the standards be set and will the right kind of people set them? Mr Goodhart emphasises the likelihood that regulators will "seek an easy cohabitation .. with the regulated." There will be an alliance with the establishment, and discrimination against the innovators, who will usually be small, risky and probably irritating operators. They will focus particularly on the gaps and margins of the regulatory system.

The official answer to this problem is that there should be a balance between practitioners and outside representatives on the boards of both SIB and the SROs. Between a quarter and a third of board members are supposed to represent the public interest. At another level, Sir Gordon Borrie has a watching brief, and having pronounced critically upon SIB's rules he is now ready to do the same for the SFOs.

There will be a heavy burden upon the public representatives on the SRO boards. They will need to acquire a degree of technical mastery and devote considerable time to their task, with uncertain rewards. They will need, in fact, to have many of the characteristics of whistle-blowers and troublemakers, but it is hard to see such people gaining the appointment in the first place.

Then there is the question of the quality of the executives of the regulatory bodies. To the extent that they are seconded from member organisations they will enjoy expertise but their independence will be suspect.

Understandable doubts

If they are career regulators they may lack the insights of the practitioner. At worst, SRO executives could be concerned at the need to build a sympathetic reputation within their industry so that they can look forward to a more lucrative second career, perhaps as compliance officers — just as Inland Revenue inspectors can double their money by going over to the other side and becoming advisers to tax-payers.

Mr Goodhart's doubts are therefore understandable, but his alternatives are unconvincing. To suggest that the costs of regulation will be greater than any conceivable losses on the part of investors is to look at the problem like an economist, and not like a politician who has to bear the brunt of public complaint.

At the same time it is true that a danger of over-regulation exists, and in some circumstances it may be wise to lighten the burden and swing the balance back towards stronger competition and, as far as the investor is concerned, the principle of caveat emptor.

The general point is that the successful operation of the system of regulation set out in the Financial Services Act and in SIB's rules will require strong, brave leadership and highly sensitive implementation. But it is far too early to assume that these conditions cannot be fulfilled under the regulatory framework which is now being put in place.

A plethora of parties is lining up for Italy's election, but real choice remains illusory, says John Wyles

Just like old times

IT IS not just the scantily-clad campaigning by self-proclaimed porno star Cicciolina, on behalf of the Radical Party which makes the Italian election so unusual. Nowhere else do you find such a profusion of candidates from dozens of parties and groups, a governing party concentrating its fire on its potential coalition allies and an opposition party proposing a post-election alliance which is rejected by all of its proposed partners.

In short, the wires of the Italian body politic appear more chaotically crossed than usual. Without an unprecedentedly decisive redistribution of votes at the election on June 14-15, it requires no small stretch of the imagination to believe in the emergence of a strong and durable government.

After nearly four years of comparative stability under Mr Bettino Craxi, the Socialist leader, the possibility that the country may be about to embark on another cycle of revolving-door governments, with an average life of nine months, is not viewed with equanimity. Many leading businessmen are insisting on the need for a strong government, capable of addressing the problems of maladministration and poor public services.

Nevertheless, the politicians, led by Mr Craxi, began talking quite early in the campaign of a possible "governo balneare"—literally a bathing government—to tide the country over the holiday season and allow the parties time to lick electoral wounds and cool campaigning passions.

Not that these have been heated by fiery clashes over policies—and in this respect the campaign carries more of an American preoccupation with style and fitness to govern. When I asked Mr Giovanni Spadolini, the Republican Party leader, why he was not talking much about policies at his public meetings, he referred me, in a somewhat offended tone, to a 40-page document stating his party's priorities. The Christian Democrat equivalent runs to 46 pages and the Socialist Party's to 48. But these tomes are more of a platform to help the candidates aboard the campaign train than something to take on the journey towards filling 630 seats in the Chamber of Deputies and 315 in the Senate.

Since the only electoral certainty is that no party will have an absolute majority in the Chamber of Deputies, policies only become relevant in the post-election bargaining on a coalition programme.

BETTINO CRAXI

The parties' share

		1976	1979	1980*	1983	1985*
DC	Christian Democrat	38.8	38.3	36.8	32.9	35.0
PCI	Communist	34.4	30.4	31.5	29.9	30.2
PSI	Socialist	9.7	9.8	12.7	11.4	13.3
PSDI	Social Democrat	3.4	3.8	5.0	4.1	3.6
PRI	Republican	3.1	3.0	3.0	5.1	4.0
PLI	Liberal	1.3	1.9	2.7	2.9	2.2
MSI	Neo Facist	6.1	5.3	5.9	6.8	6.5
	Radical	1.1	3.4	—	2.2	—
	New Left	1.5	2.2	2.1	1.5	1.5

* Regional elections, others are results for Chamber of Deputies.

But the absence of policy debate robs the campaign of both drama and colour, notwithstanding Cicciolina and a coded intervention by the Pope. Party leaders have been at it since the middle of May, but there are only so many ways in which the same speech on who should lead the next coalition government can be delivered. By the final week of campaigning column inches devoted to their utterances were much reduced.

For the student of tactics, however, the campaign has carried plenty of interest not least because voting behaviour is becoming less static. Broadly speaking, the Communist advance of 1968-76, which carried the party from 27 per cent to 34.4 per cent of the votes, has been halted and the party's leadership will be happy if it can hold on to the 29.9 per cent of 1983.

Similarly, the Christian Democrat grip on the country—only the PRI in Mexico and the liberals in Japan have held elective power for so long—has been slipping since 1968, although the party did make a comeback in the 1985 regional elections.

With the two major parties' share of the vote sliding from 73.2 per cent in 1976 to 62.8 per cent in 1983, the main beneficiaries have been the Socialists and the Republicans, but also the Radicals and new left parties.

To a large extent, however, votes have shifted within rather than between the two blocks, one dominated by the Christian Democrats and the other by the Communists. And therein lies the explanation for some extremely bitter invective.

Policies only become relevant in the post-election bargaining on a coalition programme

Mr Ciriaco de Mita, the Christian Democrat leader, fears that continued growth by the Socialists and Republicans would put paid to his party's recovery. His greatest problem is that no possible coalition can have a secure majority without the Socialists. Mr Craxi will continue to wield this pivotal power to his party's greatest benefit.

To the obvious disquiet of some of his colleagues—like party president, Mr Arnaldo Forlani—Mr de Mita gave a poisonous launch to his campaign by labelling the Socialists as "untrustworthy and dangerous." He has also ridiculed Mr Spadolini and his Republicans for their pretensions to arbitrate between the Christian Democrats and the Socialists in the post-election negotiations. In a reversion to an old Christian Democrat tradition, Mr de Mita is urging the voters to see the poll as a straightforward "good and evil" choice between the Christian Democrats and the Communists.

With some dissonance, however, Mr de Mita also says he wants to recreate the five-party coalition formula (Christian Democrats, Socialists, Republicans, Social Democrats and Liberals) which prevailed after the 1983 poll. But this time his party, as the largest one, would hold the premiership.

But now parties which were merely satellites in the Christian Democrat constellation are no longer ready to slot into their allotted orbits. Only the Liberals are backing Mr de Mita; both Mr Craxi and Mr Spadolini are refusing any advance commitment. Mr Craxi has gone further and scotched any likelihood that his party would support a Christian Democrat-led coalition for a full legislature.

"I am keeping my hands free," he declared early on, apparently counting upon his record in government to increase his party's vote and put him in a position, as he was in 1983, to demand the premiership. But the weakness is his lack of a real alternative partner, since neither he nor Mr Spadolini are prepared to swing behind the Communist Party. Its leader, Mr Alessando Natta, is none the less campaigning for a "democratic alternative" based at least on an alliance with the Socialists and the Social Democrats.

What Mr Craxi is apparently looking for is a new kind of "sorpasso"—one in which the combined vote outside the two main parties (25 per cent in 1983 including the Radicals) exceeds that of the Christian Democrats. He is presenting the latter as bent on turning back the political clock to the days of their traditional "hegemony," and as an obstacle to the modernisation of Italian Government and to social reform. If the smaller parties could together outpoll the Christian Democrats, they would again demand the premiership — although this time Mr Spadolini, Prime Minister for 18 months in 1981-82, might insist that it was his turn.

But accepting another Prime Minister from outside the two main parties would be seen as a further stage in Christian Democrat decline and Mr de Mita might just challenge the smaller parties to form a government and depend on Communist support.

Presented with the Christian Democrats' five-party alternative, the Communists' "democratic alternative" and Mr Craxi's "reformist alternative," it is difficult to foresee how the electorate will react. The presence for the first time in national elections of a list of "green" candidates complicates things still further. Abstentions, which reached 16 per cent in 1983, could go even higher.

Least likely is the choice of a genuine alternative in the shape of a government based on the Communists. In that sense, the choices open to Italian voters on June 14-15 remain strictly limited.

As fear subsides, the church steps in to rally the faithful

IF ANY REMINDER were needed of the importance of this election to the Christian Democrat Party, it came on May 8 in the form of a declaration from Italy's Catholic bishops. Ostensibly urging the faithful to avoid the temptations of abstention, it also counselled them to stay loyal "to the Italian Catholic tradition of unitary commitment."

A trifle verbose, but none the less a clear signal from the hierarchy in favour of a vote for the party which has dominated every Italian government since the war. It was, moreover, a distinct echo of the church's intervention before the 1985 regional elections, the first such utterance for many years, after which the party's share of the vote was resurrected from its historic low of 1983.

Mr Ciriaco de Mita, the Christian Democrat leader, is trying both to consolidate the recovery of 1985 and to avoid repeating the mistakes of 1983. Then, it was said, he fought too personal a campaign at the expense of the local barons, particularly in the south, who are so efficient at getting out the vote.

But Mr de Mita's greater mistake was thought to be that he gave too sharp an ideological edge to a traditionally blurred profile. Repeated stress on the need for economic austerity and a value tilt in favour of the entrepreneur upset the Catholic working class, the small shopkeepers, artisans and the pensioners, who are the bedrock of Christian Democrat support. The electoral price was exacted evenly around the country — in north and south, in rural and urban areas.

Mr de Mita is repeating the formula in this election which paid dividends two years ago. He is stressing that the Christian Democrats are a lay party, inspired by Christian values, and the safest guarantor against the capture of Italian democracy by the old enemy, the Communists.

Paradoxically, however, the political weakness of the Communists is at the heart of the explanation of Christian Democrat decline. The Christian Democrats' enormous strength in the first 20 years after the Second World War was based on the largest opposition party being aligned with the Soviet Union.

Christian Democrat policies had to be aimed at limiting working class support for the Communists, partly through stressing Christian values but more through espousing welfare policies, land reform in the south and growing state interference in the economy. By the end of the 1960s, the "economic state" had multiplied, becoming a source of patronage, power and influence for the Christian Democrats since the industries and banks under its control were managed by party men.

At the same time, parallel organisations, such as ACLI, the association of Catholic workers, and CISL, the Catholic trade union, had become formidable obstacles to the development of class solidarity for exploitation by the Communists.

However, the emergence of entrepreneurial and managerial classes and steady secularisation has gradually weakened the party's political base, particularly in the north where the Republican Party benefited in 1983.

Meanwhile, fear of Communism has become less potent, partly because the party distanced itself from Moscow in the 1970s and rejected the Soviet model completely six years ago, and partly because Christian democracy itself legitimised the old enemy through the celebrated compromesso storico, when the Communists sustained a Christian Democrat government between 1977-79.

As its electoral base has shrunk, the Christian Democrats have had to rely much more heavily on the centre and centre-left parties, particularly the Socialists, to maintain their hold on government. In doing so, however, they have integrated these other parties into the patronage system, allowing them enclaves of power which have loosened the Christian Democrat grip.

Nevertheless, one cannot yet paint the party into an inexorable decline. Mr de Mita has done much to renew it by reducing factionalism, improving local organisations and tackling the most obvious links with organised crime. In addition, a substantial part of the electorate still remains unwilling to risk Communist participation in national government. As long as this prevails, the Christian Democrats may be down, but they are certainly not out.

Men and Matters

Labour gains high-tech ground

Some results that will cheer the Labour leader, Neil Kinnock, have emerged from an attempt by Wickes Associates, a specialised high-tech consultancy, to marry a debate on information technology with the British general election campaign.

David Butler, a Labour Party member, and chairman of Butler Cox, the IT consultancy group, polled an absolute majority over his opponents, the Conservative speaker, David Fairbairn, former director of the National Computing Centre, and the Alliance's professor Jean Millar, director of continuing education at Brunel University.

Butler, who says that his role in the Labour Party is "limited to stuffing envelopes" relied upon some vigorous polemics to win the argument. He castigated the government for the steadily rising trade imbalance in information technology products, and made some play with the fact that Fairbairn would never have had the chance to run the NCC if the centre had not been invented in the first place by a Labour government in the 1960s.

On the issue of the investment gap, which both the Labour Party and the Alliance believe to exist for small but expanding high-tech companies, Butler also spoke with some authority.

"Investment bankers take a view which is too short-term," he said, "I know because I am one."

That was a reference to his role in the Octagon group, the venture capital company where he is a director of one of the subsidiaries.

Butler is also a director of Istel, the system management company set up by BL, and now a significant force in the factory automation industry.

Istel generates profits of some £8m on sales of £60m, and has recently become the subject of a central element in Conservative industrial policy — to wit, it is being privatised.

"But it will be a management buy-out," says Butler. "So I can live with that."

"I've just got you a booking for a political rally — of course you won't get top billing"

Serendipity

While the British party leaders fret over the political permutations and combinations possible with more than 600 elected members of parliament, things are necessarily on a smaller scale on the tiny Caribbean island of St Lucia.

Since calling two general elections in April, and failing to get better than a nine to eight majority in parliament, John Compton, the prime minister of St Lucia, has been living in fear of a defection by one or more of his members to the opposition benches.

A migration across the floor by even one of his flock could have brought down his government.

Compton's concerns have now been brought to a sudden and, for him, most agreeable conclusion. For the defection, when it came, was in the opposite direction. Neville Cenac, who had kept his constituency solid for the opposition Labour party, took a seat among government members of parliament when the new session opened, thus neatly tripling Compton's parliamentary majority from one to three by his short walk.

Came a break in the proceedings, and Cenac was questioned closely by the press. "Broken promises, broken promises" he intoned mysteriously, and refused to be drawn further.

But his migration proved to be not without personal benefit. He was promptly appointed foreign minister of St Lucia.

Election spiked

Meanwhile, chances of the forthcoming local and European parliament elections in Spain making a splash to rival the British and Italian election campaigns, appear to have been even further reduced.

The official state-controlled news agency Efe may not even be in a position to cover the campaign and polls.

Three days of strikes are threatened by the agency's journalists. The action is the latest in a series of protests among Spanish public sector workers against attempts to restrict this year's pay increase to 5 per cent—the government's inflation target.

In a referendum the management offer was rejected by two-thirds of the 450 staff taking part. However, the agency put off informing its subscribers about the conflict as efforts continued to head off the strike threat.

The agency was originally set up by General Franco in the closing stages of the Spanish civil war. It has been experiencing problems ever since the return of democracy—but has not suffered a strike before. The question its critics are asking is: if it is off the streets will its coverage be missed?

Glasnost pasta

An authentic Italian restaurant staffed with Italian chefs and waiters is to open in Moscow as a further demonstration of the new policy of openness launched by Mikhail Gorbachev.

Gino Lunelli, head of the Ferrari company which produces sparkling wine, says the Hostaria Ferrari restaurant will open in Moscow's Mezhdunarodnaya Hotel this week for a two-week trial run.

There will then be an official gala dinner to which the Soviet Prime Minister Nikolai Ryzhkov, and Foreign Minister Eduard Shevardnadze have been invited.

The food, which will include spaghetti, ravioli, and lasagne, will all be imported from Italy along with the wines, and four chefs and four head waiters.

Clients are expected to be western businessmen, diplomats, senior Soviet officials, and any Muscovites lucky enough to get a table after the privileged have been fitted in.

Lunnelli says that the enterprise is a joint venture with a Soviet state company—and is a direct product of the new policy of glasnost.

Pig power

Election grafitti near Bradford university seems to have been the product of an intellectual fist.

"Pigs can fly . . . nuclear power is safe . . . voting changes things."

Observer

British research policy

Science learns the hard sell

By David Fishlock, Science Editor

SUPERCONDUCTION is a word that has caught public imagination in a way that is rare for the physical sciences: on a par with "black holes" and supernova. How IBM scientists discovered this property in coal-like fragments of ceramic has become a legend in less than six months.

Less well known is the fact that Britain has a long and honourable record in the technology of superconduction, reaching back to the 1950s. Most conspicuous is the way Oxford Instruments has harnessed it to dominate a world market in superconducting magnets for medical scanners using the phenomenon of nuclear magnetic resonance (NMR).

Yet as late as early February, Britain's science community apparently had failed to catch on to the significance of "high-temperature" superconductors, operating much nearer normal temperatures than anything being manufactured today. The chairmen of Britain's leading science funding agencies were themselves unaware of the excitement and still under no pressure for funds to catch up.

Pressure came only after the mid-March meeting in New York, when international scientific excitement spilled over in what one US physicist called "a Woodstock for physics." Over a thousand people turned up—but no one apparently from Britain.

Now there is talk of the Science and Engineering Council finding £200,000 for universities to start some British research. It already has requests that total £2m. With everyone belatedly crying "me too," the cash is likely to be spread widely and far too thinly.

Superconduction thus starkly illustrates the central problem of science in Britain. For a quarter-century it has been wrestling with the problem of making science work more efficiently with and for the economy. It began with the much misquoted speech of Harold Wilson, in 1963, when he spoke of "the Britain that is going to be forged in the white heat of this revolution."

Sadly, the fervour for science was soon subsumed into more pressing problems of the economy. However, by killing off some of the more ambitious technological adventures of the day — the TSR2 bomber and the supersonic jump-jet in 1965, for example — his government might claim at least to have begun to address the central problem.

This problem is simply that Britain's desire to be into every exciting facet of science and technology has long outstripped its resources. As the 1964 Labour Government recognised, Britain simply did not have the resources to make a success of all the pioneering aviation projects it had spawned. So it made choices; the subsonic jump-jet — which still needed another four years of research and development before entering service as the Harrier — but not the much more ambitious supersonic version.

During the 1980s the body which has wrestled with such choices has been the Advisory Council for Applied Research and Development (Acard), the government's technology adviser. It began, two chairmen ago, as an exercise in identifying national projects which had outlived expectations, so that they might consider shutting some down and releasing funds for all the exciting new opportunities scientists kept saying Britain should be supporting.

The exercise made little headway. As the late Dr Alfred Spinks, then Acard's chairman, once told me, every time his council alighted upon a project it believed should be stopped, someone would plead so eloquently for its retention that the idea would be dropped.

The problem was starkly exposed by the House of Lords Select Committee on Science and Technology in 1982. As a result, Sir Henry Chilver, Acard's chairman at the time, set off in a fresh direction. Instead of trying to find projects to stop, Acard sought to identify projects Britain should be pursuing for sound economic reasons. The rationale was that if British scientists were deliberately encouraged to pursue chosen new projects, their commitment to superannuated research might weaken.

Just a year ago Acard duly produced its report on exploitable areas of science. A working party headed by Dr Charles Reece, ICI's research director, called for a national scheme to identify and support economically valuable projects at an early stage of scientific research. It proposed a forum of "wise men" in which the choices would be made, closely allied with an eminent academic institute to give it extra intellectual muscle.

The vital point about this proposal is that the new machinery would view British science as a whole, in a way that no single body—including Acard—does today. It would try to sort out national priorities and advise or cajole the government at a high—perhaps prime ministerial—level. It would pose such questions as these: is Britain getting a good economic return for the 55 per cent of government R and D funds that go to defence; or could the insurance be purchased more cheaply by importing more Exocets and other overseas defence equipment?

The new machinery would not get into the detail of specific areas of spending, but would settle the broad allocation of resources between the departments that spend heavily on R and D: defence, education and science, industry, energy and agriculture.

Britain's top academics have been very resistant to change

For the past year the Cabinet Office has wrestled with the fine detail of this proposal. How far it has progressed may be gauged from the reference in the Conservative Party's election manifesto to ensuring "that government spending is firmly directed towards areas of high national priority," by extending the role of Acard, drawing upon the full range of advice from the academic community and from business.

The idea is that Acard shall expand into Acost, the Advisory Council on Science and Technology, spanning the spectrum of British science. Industry has already pledged funds to launch the supporting think tank.

There is already a Cabinet Committee in place, taking advice from Acard, now led by Sir Francis Tombs, Rolls-Royce's chairman. This committee has managed to put a ceiling on defence R and D spending. What it has not yet succeeded in doing is having the "saving" transferred to another science sector.

Another important influence of this new focus on "exploitable science" has been the pressure on Whitehall departments to evaluate R and D spending in a more sophisticated way. The Department of Industry, which wants to double its present annual budget of £400m, has devoted much energy to evaluating returns from past investment. It claims its case is strong. Agriculture has been much less energetic.

The sector whose voice has been raised loudest in demand for a bigger budget is academic science, funded via the Department of Education and Science. For a comparatively modest price — perhaps a few tens of millions of pounds — the Government could have bought off this sector and silenced its critics.

On the strongest advice from Acard, it has refused to do this. Acard recognises academic science as the spring which will nourish the new science it wants to exploit.

The fact that academic science is having a rough time is not disputed. The real cost of doing science has outstripped inflation — the so-called "sophistication factor" which is driving up instrument costs — while the science budget is at best static. But Britain's academics, right up to its topmost institution, the Royal Society, have been very resistant to change.

This resistance is enshrined in the devotion of academic science to the time-honoured teaching boundaries of science: physics, chemistry, biology, etc. The real world, meanwhile, has become multi-disciplinary. Its pursuits can involve all these disciplines and many more. Acard wants academic science to get a big injection of new government money, but not merely to prop up present research fiefdoms and the ageing instrumentation of "big science."

Acard envisages substantial additional funds being channelled exclusively into new multi-disciplinary research centres at the best of British universities, selected with the help of its thinktank. These would be devoted to areas it identifies (in its new role as Acost) as exploitable science for Britain.

Superconduction would be an obvious example. It would probably warrant two different centres, each focused on one of the two broad objectives foreseen at present: the electronic, computing and waveguide opportunities for thin films of superconducting ceramic; and power engineering, which would pose quite different challenges in making tapes, wires and cables of ceramic.

Acard wants to see perhaps 20 or 30 such centres springing up quickly at Britain's most innovative universities, each devoted to one of the scientific challenges that underlines major new industrial activities of the future—above all, in information technology, biotechnology, and advanced engineering materials.

But Acard insists these new multi-disciplinary centres should be independent of the science teaching role of Britain's universities, under directors of the same status as heads of departments, firmly in control of their own budgets and also attracting industrial sponsorship.

And there, as the impoverished academic scientists see it, is the rub.

Lombard

Cosmetic change in education

By Michael Dixon

THE KEY to the true identity of the horse which won the Wessex Stakes was — as Sherlock Holmes devotees will know — the dog that did not bark. As the UK political parties near the post in the election, it may be that a similar significant silence gives a clue to the real nature of their education policies.

While the silence in question is noticeable in all the parties' manifestos, it is especially so in the Conservatives' programme. For not long ago the absent topic was repeatedly emphasised by Sir Keith Joseph, then Education Secretary, as one of the nation's "most pressing problems." It is the perennial failure of thousands of young people to gain anything of marketable value from 11 years of compulsory schooling.

Until the Cabinet banned Sir Keith from barking about education's empty-handed customers soon before he was replaced by Mr Kenneth Baker, he numbered them at 40 per cent of all pupils. If the test of marketable value is the examination success which most big organisations demand of young recruits, that figure is an underestimate.

No fewer than 45 per cent of school-leavers lack a single Ordinary-level pass grade or the equivalent. But success in several subjects is usually wanted for a job with promotion prospects, and if the demand is raised to only two passes, a good half fall short. The minimum of five required for entry to higher education is out of reach for nearly three quarters.

Hence for every pupil the school system qualifies for a promising career, it disqualifies at least another. Few if any competing nations' systems have such a disabling result.

Take for example Japan and West Germany. The UK compares well with them in terms of educational successes. Official statistics show that the proportion of eligibly aged people who do well enough at school to enter higher study is 27 per cent in Germany and 38 in Japan. The UK figure is 31 per cent for state-sector higher education, and 40 if entries to private colleges are included (which raises questions about the Alliance's proposal to double UK student numbers).

Among people who do not qualify for further studies, however, research has found that those in Japan and Germany have typically been equipped not only with greater mental and other skills than those in Britain, but with interest in acquiring still more. By contrast, the UK counterparts often leave school purged of any ambition to train for skilled work.

It is therefore disquieting that no party has singled out the problem for remedy. It has little chance of being cured by Labour's promise to give all school-leavers "profiles" recording other successes as well as any in public exams. Most employers would probably go on ignoring all candidates without exam success, using the extra information merely to decide between those who had some. Since the empty-handed come largely from schools with poor reputations, they can hardly benefit much from the Conservatives' pledge to free schools which are oversubscribed with applications to build on their established advantages.

Nor is the problem likely to be overcome by all three main parties' promises that all schools will teach a standard basic curriculum. The fact is that whether children learn anything of value at school depends less on what subjects they are taught than on the motivating ability of their teachers.

But when teacher-training colleges are selecting entrants, they have no reliable means of telling whether they are likely to be able to motivate children to learn. While it is clear that some teachers are excellent at it and others are worse than useless, little if anything is known about what makes the difference between them.

Since none of the parties seems interested in such fundamental deficiencies, let alone in funding the extensive research needed to repair them, the only accurate term for the real nature of their education policies is "cosmetic."

Letters to the Editor

Real concerns of industry

From the Director, British Management Data Foundation

Sir,—It is important that the real concerns of industry about our monetary policy are correctly understood. These have not, however, been fully reflected by John Caff of the CBI (June 3).

He is, of course, absolutely right in underlining industry's desire for greater stability of exchange rates — but this should not be taken as meaning at any price. The overriding need is a competitive rate and the current worry is that sterling is creeping up again—despite the present very welcome efforts of the Treasury. What would really help would be a rate near to DM 2.80. This would give an appropriate edge—fluctuations below this level would be a bonus and not a worry!

What is worrying is that it still does not seem to be generally appreciated how fundamental exchange and interest rates are to our prosperity. Major international companies have increasing ability to move manufacturing round the world to where it is cheapest. High exchange rates will only drive work off-shore. Low rates will help our economy to grow and pull in manufacturing from overseas. Under these circumstances to deliberately hold up the pound by excessively high interest rates seems to industry to be a self-inflicted wound.

The Treasury argument that this is necessary to defeat inflation has been pushed to absurdity. It can be shown indeed that high interest rates have fuelled inflation through keeping up the RPI which is a prime factor for pay settlements and have seriously handicapped industry with little impact on personal borrowing. (cf, the extortionate interest rates of credit cards, some over 30 per cent—at such a level how a point or two change in base rate can have the effect of squeezing personal expenditure that the Treasury fondly imagine, defeats me!)

The effect of changes in exchange rates on inflation has always been grossly exaggerated. Importers who are anxious to keep their market share will cut their margins. Others will be priced out—which is a good thing. As far as our manufacturers' prices are concerned, most of our successful companies put a great deal of added value into their products, so even if commodity prices harden, the effect is very marginal. In this respect the points made by Mr Pemberton (June 4) are very pertinent. He is right to castigate Mr Harran (May 28) for his misguided comments about savings in raw materials compensating UK exporters.

On the question of the EMS, I do not think that the CBI is correctly reflecting industry's views. I believe most of manufacturing industry strongly supports the Prime Minister who deserves great credit for rejecting the siren calls from the City and elsewhere to abdicate our sovereignty in monetary matters to the EMS. Most of the alleged benefits can be shown to be illusory.

It is to be hoped that after the election we will continue to exercise our own monetary policy to meet our specific needs. In particular that we should reduce interest rates sharply by at least 2 per cent if not more. This would help to keep the exchange rate at a more sensible level as well as encouraging investment for market growth.

Anthony Cowgill.
4-6 Savile Row, W1.

Energy policy

From Mr P. Ross.

Sir,—Your Leader (May 21) on the Labour Party's energy policy paper made many good points, but seemed rather afraid of its own logic. If as you suggest energy conservation is a strategic and economic necessity, and direct grants are a good use of national resources, then fiscal incentives to produce the marginal barrel from the North Sea may not be such a bad idea. It is not a question of subsidies to highly profitable multinationals, but rather of how we optimise recovery of a valuable national resource in a highly competitive international market, and in the process create jobs and hard currency earnings and exportable high-technology.

There used to be a rather larger British independent sector, which was assisted in its growth by the existence of a state oil company that provided an efficient marketing operation for smaller companies as an alternative to the majors. In a recession a state oil company can sustain a higher rate of drilling and development activity than might otherwise be the case, facilitating private sector investment and limiting the damage to areas like the northeast of Scotland. The argument should not centre on politically emotive language about subsidies but on a rational discussion of the long-term economics of counter-cyclical investment. This might include the need to sustain the oil exploration and service industry in the UK, not just for jobs, exports and technology now, but for the time when oil prices rise again. A study of current production capability and oil investment in Opec and non-Opec countries suggests that you might want to substitute the word investment for subsidy, given the lead times involved, and the need to otherwise outbid other richer economies for the marginal barrel.

The unregulated Brent forward market is also an area that you might have addressed—hardly a success for the taxpayer, the companies involved or the free market.

Peter Ross.
118b, Wimbledon Hill Road, SW19.

A Christian Democrat

From the Conservative Parliamentary Candidate for Kensington

Sir,—May I congratulate Malcolm Rutherford on his perceptive article (June 8) about the north-south gap here in Kensington? But may I also correct one mistake? I am not an "old fashioned Liberal"—I think I might perhaps be called a Christian Democrat. That is why I belong to the Conservative Party and support Mrs Thatcher.

(Sir) Brandon Rhys Williams.
32, Rawlings St, SW3.

Community charge

From the Deputy Chairman National Union of Ratepayers' Associations

Sir,—We find it extremely difficult to understand how the poll tax, known as the "Community Charge," can be described by Conservative Party spokespersons as "fair," when the same organisation has consistently declared from 1974 onwards that domestic rates were unfair because they were "not related to ability to pay."

At least, as far as domestic rates are concerned, there is a random and very tenuous correlation between income and contribution. But in the case of the Community Charge there is not intended to be any! Any relief afforded is no more — and, probably, would be less — than under the rightly-discredited system it would be replacing.

Let us note what will be the position where, typically, the Community Charge is say, £250. After deduction of personal allowances, the effective rate of compulsory direct taxation (ie income tax and Community Charge(s) combined) will be 28.42 per cent for the young whizz-kid on a salary of £20,000 a year. On the other hand, for the manual worker living next door, earning £120 a week and supporting a non-working wife, it will be no less than 47.25 per cent!

Surely, no person claiming to have a genuine concern for equity and justice can maintain that such a situation would be "fair."

Roland Rench.
8, Minshull Place, Park Road, Beckenham, Kent.

Speculation on change

From Mr A. Dalgleish

Sir,—Your coverage of the election appears to be based on an assumption that, if the government fell, the incoming one would be able quietly and calmly to start implementing alternative policies. In view of the extent to which Britain's reliability as a trading partner is identified overseas with the policies of Mrs Thatcher's government this appears most improbable. Comparisons with what occurred on past changes of government, in the days of consensus politics and rigid exchange controls, must be wholly irrelevant. The gap between left and right is far wider than at any time since the war.

It would be interesting to speculate on how many billion pounds would leave the country in the first five minutes after it was perceived that Mrs Thatcher had not got a working majority. What level of interest rates would be needed to maintain any respectable value for the pound: 30 per cent, 50 per cent? I have an interest here as I am most concerned regarding my children's house purchase mortgages and what would happen if they could no longer pay the interest. Would tour operators have to cancel all holidays not covered by advance purchases of foreign currency?

I suggest that these are the matters of real concern to the public, not the personalities of the rival party leaders.

Angus Dalgleish.
Shouson Hill, Ruxbury Rd, Chertsey, Surrey.

Bang into the hole

From Mr B. Webb Ware

Sir, — If Sir Nicholas Goodison had known his astronomy, he would have realised that what he was creating was not a "big Bang," but a "Black Hole" into which all the paper has gone.

B. Webb Ware.
Stoberry Cottage, Graffham, Nr Petworth, Sussex.

FINANCIAL TIMES
Tuesday June 9 1987

David Marsh reports on why West Germany is tightening up its liberal asylum provisions

Bonn tires of its refugee haven role

FOR TENS of thousands of foreigners from Third World and East European trouble-spots camping out in well-heeled West Germany while they seek asylum as political refugees, life is undoubtedly more pleasant than in their country of origin.

But it is still not much fun. Alexander is a young Ghanian, and nervous about giving his full name. He fled his country last summer and is living with nine compatriots in a bunk-bedded former schoolroom in the small Bavarian town of Pressath.

He speaks for many when he says: "This is not our country. We are not here for our enjoyment or entertainment, but because we have problems back home."

Nor are refugees a source of much pleasure to the Bonn Government or a large number of its citizens.

Now, both to tighten legal procedures on refugees already in the country and to deter those outside from coming in, the Federal Republic is *slowly but surely* watering down generous asylum provisions brought in after the Second World War as a symbolic way of turning its back on Nazism. The country has grown tired of its liberal reputation.

It claims that a large proportion of people seeking a haven on its territory from the Indian sub-continent, the Middle East, and Africa are not genuinely persecuted but are simply seeking a better life through a bolthole to the West.

Attracted by the Federal Republic's prosperity and by asylum guarantees written into the constitution, nearly 100,000 people applied for refugee status last year, making the country Europe's chief refugee staging post.

A major entry point via the border with East Berlin was closed last October. This is one of the reasons why near-hysteria in the West German media over the question has now conspicuously died down.

With a further 11,700 applying in the first three months of 1987, the Bonn Interior Ministry expects the number of refugees to approach 50,000 this year – the population of a fair-sized town.

East Berlin border

Bonn's liberal asylum code to protect "persons persecuted on political grounds" is enshrined in Article 16 of the 1949 Basic Law. But the real difference from other Western countries lies in a clause of Article 19, which gives asylum-seekers full access to West Germany's weighty and complex legal machinery.

This means that refugees in West Germany have been much less likely to be expelled or rejected at the border than in other European countries. But they are subjected to a lengthly process of Kafkaesque proportions before their legal status is cleared. And the conditions under which people are formally recognised as refugees – already tightly drawn – have become further circumscribed as a result of recent legislative changes and stricter court rulings.

The Interior Ministry says 700,000 to 800,000 foreigners in the country (out of the total foreign population of 4.4m) come into the overall refugee category. This includes such diverse groups as stateless persons, the roughly 100,000 applyng for asylum, and the large number whose asylum applications have been turned down but who none the less stay on.

Only 70,000, however, have managed to surmount all the legal hurdles to become formally recognised as refugees, gaining full residence and employment rights. This is similar to the number in France, Britain and Sweden.

Over the past few months, the law governing legal refugee procedures has been tightened to bar entry to people already protected in another country. Other legal loopholes have been closed, visa requirements in neighbouring countries tightened and, fines levied on airlines bringing in "false" refugees.

Mr Norbert von Nieding, head of *the Federal Office for the Recognition* of Foreign Refugees, based in Zirndorf near Nuremberg, says: "The basis of Article 16 was the death of 6m Jews. But the fathers of the Basic Law did not think the numbers (of refugee applications) would be so high."

As a result of civil war conditions in countries like Lebanon, Sri Lanka, Iran and Afghanistan, together with more international air links, the West German refugee mechanism – originally designed above all to take in German-speaking nationals from communist Europe – has had to cope with a new set of circumstances.

"It is no longer a question of individuals persecuted by the state. Now we have a phenomenon of mass persecution," says one refugee worker. Some aid officials ask ironically whether the tighter regulations would have coped with an influx of Jews persecuted by a theoretical Nazi regime abroad.

The Zirndorf office has doubled its staff to 600 over the past two years and is speeding up recognition procedures, aiming to get through 100,000 applications this year. Only 10 per cent are granted – *a percentage which may fall further* in coming months. People from Afghanistan (33 per cent of applications), Iran (31 per cent) and Sri Lanka (21 per cent) have had the highest recognition rates in this year's decisions, followed by Poland, Romania and Hungary (8–10 per cent). Lebanese, Ghanaians and Indians have practically no chance of acceptance.

The Government maintains that 70 per cent of rejected applicants who are able to take their cases through lengthy appeal procedures are allowed to stay in the country. But the authorities are now taking a tougher line on deportations.

During the early 1970s, roughly 75 per cent of the (much lower) flows of refugees into West Germany were white people from Eastern Europe. Now the percentage has been reversed, with 75 per cent being being non-whites from the Third World.

This has posed the problem of accommodating and feeding racially mixed groups, *most of whom do not speak German, in camps and ma*keshift buildings spread around the country. Public controversy over allegedly generous treatment of asylum seekers has also exposed latent German xenophobia.

Experiences of refugees vary widely. They are given pocket money of about DM 60 ($33) a month and not allowed to work, at least until given permanent status. Integration with local people is not encouraged. The authorities do not want them to put down roots.

Outside Mr von Nieding's office at Zirndorf – on the same site as the central Bavarian camp for asylum-seekers, housing about 400 people – members of an Iranian family complain about the food, but say their throats would be cut if they returned to Tehran.

At Neustadt an der Weinstrasse, on the western fringes of the Republic, 61-year-old Mr Kurt Salm runs a hotel and restaurant housing 15 asylum-seekers, mainly from Bangladesh. He is being paid by the social security office and it seems to be worth his while, in spite of his lurid stories about the refugees frightening old people and refusing to use toilet paper.

*In Munich, whose bright lights at*tract refugees as well as tourists, a former government office block now houses 463 people from 10 countries. About 100 Tamils are allowed to work, many of them in McDonalds restaurants.

The town of Hof, in north-eastern Bavaria, accommodates 500 asylum-seekers. They have been sent there in disproportionately large numbers, local relief workers suspect, because Hof, next to the closed Czech and East German borders, is an unattractive place.

Local residents protested when 250 non-white refugees were sent into a block of flats originally intended for trainee Bavarian functionaries.

The refugees also complain. Mr Zbigniew Szafranski, 63, a long-bearded Solidarity supporter from Poland, has just been given refugee status after six years (his wife is still fighting for it). He says "life in Germany is good, but the bureaucracy is 100 times worse than under communism."

*Pressath, a town of 4,000 inhabit*ants within firing range of a massive American army training base, has shown unusual hospitality to its refugee contingent. But the fate of the Ghanaians in the schoolhouse is in the balance.

Local residents organised a mass petition to check the Bavarian Government's bid to move away the Ghanaians to a larger refugee complex. Deportation is a clear possibility.

"Just because there is less guilt complex about the war, I don't see why we should do away with asylum rights," says Mr Richard Murr, a 24-year-old employment office worker who is spearheading local moves to help the Ghanaians.

As for the refugees, they are unwilling to discuss the reasons why they are in trouble with the Ghanaian authorities and are irate about the largely inedible (for African tastes) food. The say they would like to go home. "When I left, my wife was pregnant," says Alexander. "They wrote me a letter to say she had the baby . . . we are praying to our God for our future. One day a letter might arrive to say my case has been cleared."

THE LEX COLUMN

A late diagnosis at Amersham

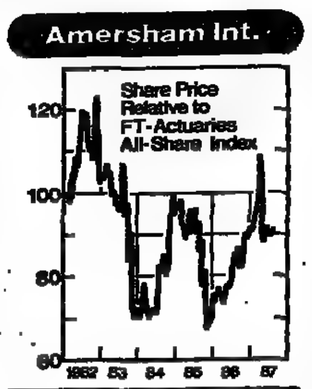
From the over-subscribed euphoria – followed by sharp recoil – which attended its flotation, the zigzags of the Amersham International share price have derived in large part from the blurred vision of the market. Such «mistakes» are not surprising given Amersham's complexity and uniqueness. However the latest minor derating (down 21p to 604p) appears to have its roots in analytical myopia over the company's currency exposure.

With 88 per cent of sales overseas and all manufacturing in the UK, Amersham is peculiarly tied to ster*ling's relationship with the basket* of currencies. But while other companies were seeing their 1987–88 forecasts hedged back in line with sterling's appreciation several weeks ago, it was not until yesterday's results presentation that Amersham suffered a similar fate.

Last year was slightly disappointing due to a dollar-induced margin squeeze in the research and industrial products divisions. Meanwhile medical products – which if all goes well will take up the running over the next couple of years – recovered thanks to the diagnostic products and reduced losses at Amerlite. Earnings per share growth was down to 8.6 per cent, depressed by a higher tax charge and minority interest, but (notwithstanding currencies) should bounce back in the current year leaving Amersham on a multiple of 20, sustainable even without bid froth.

An auction on the Government's golden share could make up for the original under-pricing but is ruled out by the spirit of the prospectus. Even if that protection is waived next year a bid is unlikely – despite the strong underlying growth prospects and some interest prior to the flotation. The company would not welcome one (although it might be happy to see a dissolution of the golden share), there is no obvious industrial benefit, and thanks to the articles of association a bidder would need a 75 per cent EGM majority.

Amersham Int.



Bank shares

Yesterday's early morning fall in the bank sector smacked more of nervous traders looking for something to hit than a considered judgment. Volumes traded were moderate and by the afternoon share prices had largely recovered with the market, aside from Midland's which closed 26p lower at 604p. There is something illogical in that, for Midland's rights issue was already a *non-starter* at the opening price.

Knocking bank shares on speculation about increases in third world debt provisions in any case runs counter to all that has driven both bank managements and analysts for the last few years.

The motive behind the strengthening of capital ratios was the problem created by the debt crisis; selling some of the debt off at a discount would merely get the banks back to where they were. Additions to general provisions do not affect those ratios anyway, while banks will not be willing to make specific provisions unless the Inland Revenue can be persuaded to take some of the pain in tax relief.

Higher provisions à la Citicorp made at one go, even if tax-allowable, would have a serious affect on earnings. But it is precisely because bank earnings are of such poor quality that multiples are so low, and why banks keep their dividend cover high. Such provisions are to be welcomed if they bring greater reality to banks' financial statements.

SEC decisions

What one official has described as "the most important corporate governance issue of this century" is due to be tackled in Washington this Thursday. The same meeting of the Securities and Exchange Commission is also due to consider a proposal of some significance outside the US: whether the New York Stock Exchange should be allowed to change its rules in order to make it easier for foreign companies to secure a listing.

The big issue is whether the NYSE should be allowed to drop or at least modify the principle of one share, one vote. The pressure for change has come from the listed companies themselves. In theory, General Motors could have been delisted for its decision to issue shares with limited voting rights in an acquisition, and a number of big companies, like the New York Times or Wang Laboratories, cannot be listed on the NYSE because of their voting structure.

The SEC had been hoping that the exchanges would come to some cosy agreement, enabling it to avoid what could be a hot potato politically. But the American Stock Exchange, which has an economic interest in keeping high entry barriers to the Big Board, has objected strongly to a deal supported by the NYSE and the Nasdaq over-the-counter market.

This would permit companies that already have unequal voting rights to stay with them, and allow others to issue shares with limited rights – provided they were weaker than those of existing shareholders. The issue of "super-voting" shares would be banned.

The betting is that the SEC will approve something on these lines and, after public hearings, force the Amex to conform. Fair enough, provided that existing shareholders are not diluted and buyers know what they are in for. The SEC should also support the idea that foreign companies which qualify for a listing in their home market should be allowed access to the Big Board, even if they do not fully meet its listing requirements. Only 60 foreign companies are currently listed on the NYSE, a figure which could be set to rise significantly.

Household Mortgage

If the mortgage securitisation industry is to get off the ground the idea of packaging home loans into bonds has to be as attractive to the investors as well as the borrowers. Household Mortgage Corporation's £150m floating rate note appears to have addressed at least some of the intricacies of average lives and serial sinking funds which have been putting off buyers of previous issues. No doubt further refinements will follow, bringing yet more finance to the mortgage market – and that must be good for house prices.

Opposition parties fail to dent Tories' lead

BY PETER RIDDELL, POLITICAL EDITOR, IN LONDON

THE CONSERVATIVES are maintaining their large lead over Labour in the opinion polls with no sign of an upsurge by the Social Democratic Party/Liberal Alliance as the campaign enters its final two days.

A Marplan survey for today's Guardian undertaken yesterday puts the Tories on 45 per cent, up one point since a similar poll last Thursday. Labour is shown down two points at 32 per cent, with the Alliance up a point at 21 per cent.

Even allowing for the fluctuations of an individual poll, these figures are a disappointment for Labour, which had been predicting signs of an upturn by now following the row about Mrs Thatcher's preference for private health.

Conservative strategists believe they have checked any Labour counter-attack and forced the party on to the defensive over its tax plans. This led to a furious row yesterday with Mr Nigel Lawson, the Chancellor of the Exchequer, accusing Mr Roy Hattersley, Labour's economic spokesman, of "lying through his teeth."

BRITISH ELECTIONS

The Tories have succeeded in focusing attention on their favorable issue of the economy by warning of the alleged threat to people's take-home pay posed by Labour.

By contrast, Labour has been forced gradually over the past week to admit to tax proposals not included in its manifesto, although previously announced, including the abolition of the married man's tax allowance, the removal of the upper ceiling on employees' national insurance contributions as well as various compensatory adjustments.

Mr Neil Kinnock, the Labour leader, insisted that the overall package would mean that "no one under £500 a week would be at any disadvantage and many who have children will be at a considerable net advantage."

Ahead of Mrs. Thatchers's departure for the Venice summit, the Tories highlighted their economic record under the slogan "Britain is Great Again". They also focused attention on Labour's links with the trade unions.

Even before her departure from Britain, opposition leaders sought to undermine any favourable political impact by questioning the purpose of the *short visit. Dr David* Owen, the SDP leader, said Mrs Thatcher should seize the opportunity and not merely treat it as just a photo opportunity.

Similarly, Mr Kinnock accused her going "just long enough for a sandwich, a sermon and a photo-session" and said it would not serve any constructive purpose.

Last night's final Labour election broadcast featured music from Gilbert and Sullivan's "The Gondoliers" in satirising Mrs Thatcher and her relationship with President Reagan. Like the first highly praised, and repeated, broadcast featuring Mr Kinnock, it was made by Mr Hugh Hudson, the director of the film Chariots of Fire, and was intended to show the Labour team as ready for government.

In face of the Tories' strong position in the polls, Labour is appealing directly to Alliance supporters to switch. This is in the hope of making sufficient gains in target marginals, where Labour believes it is doing well, to deprive the Tories of an overall majority.

Fearful of a possible last-minute squeeze, Alliance leaders argued yesterday that Labour could not win and that the only way of "moderating the excesses of Thatcherism" was by supporting them.

Strikes blow for Thatcher, Page 7

Extremists arrested in Egypt

By Tony Walker in Cairo

EGYPT has arrested about 500 religious extremists following recent assassination attempts in a sign the Government is hardening its attitude towards militant Islamic groups.

Major General Zaki Badr, the Interior Minister, gave details of the arrests at a meeting of Egypt's ruling national Democratic Party. He was replying to opposition claims that thousands had been arrested.

Egyptian authorities have been shaken by recent violent incidents. These include attempts on the lives of a former interior minister, the head of American security in Cairo and a left-wing magazine editor.

Egyptian officials are wondering if the three separate incidents are linked and whether they are part of an organised attempt to create uncertainty.

Privately, officials are blaming the proscribed Islamic Jihad (Holy War) organisation for the shooting on May 5 of the former interior minister Mr Abu Basha, who suffered extensive wounds to his legs, and last Wednesday's attack on a magazine editor, Mr Makram Mohammed Ahmed, who escaped with *minor injuries after gunmen* opened fire on his car.

Major General Zaki Badr revealed, in his statements to the NDP, that a new "anti-terrorism law" was being drafted. He gave no details.

The mass arrests of the past several weeks have been made under an emergency law in force since the assassination of late President Anwar Sadat in 1981. The law enables the Government to arrest, without preferring charges, those suspected of threatening state security.

The Government faces a constant challenge from Moslem militants pressing for the introduction of Islamic sharia law. Militants are also opposed to Egypt's peace treaty with Israel.

Egyptian officials are speculating about the possibility of an outside power being behind the recent incidents. But no evidence has been produced that would link Egypt's enemies such as Libya, Syria and Iran with the assassination attempts.

Responsibility has been claimed in only one case, that of the May 26 attempt on the lives of two American officials as they drove to work. A group calling itself "Egypt's revolution" said it carried out the attack.

"Egypt's revolution," which is thought to be a left-wing group, claimed responsibility for the killing of two Israelis in Cairo in the past two years.

US relaxes sanctions

Continued from Page 1

The West German delegation clearly remains determined to deflect the implied criticism that it could do more to stimulate its economy. Officials said yesterday that Mr Kohl would emphasise that West Germany's monetary and financial policies had been pushed to the limits of what was possible.

They said that figures for the first quarter of this year, due to be published next week, showed that the economy expanded by 2.4 per cent compared to the same period *of 1986. They gave no comparison,* however, with the last three months of 1986 which, it is widely thought, would reveal that German growth was stagnating or even falling slightly. West German officials are also stressing that the latest indica*tors for April* showed a marked upturn in the economy.

For their part, Japanese officials quoted Mr Nakasone as emphasising the need for a further period of stability on foreign exchange markets.

Express mail plan

Continued from Page 1

between 25 and 30 per cent a year, although precise figures are difficult to calculate because many operators, including post office subsidiaries, do not publish turnover figures.

The International Courier Conference, which represents the major companies, estimates that the industry has grown from around 5m packages in 1980 to some 40m this year.

This is in addition to gross revenues in the various domestic mar*kets of around $12bn.*

Post offices have taken a substantial share of this growing market, partly because they had an international distribution and delivery infrastructure already in place when the market began to develop around three years ago.

Datapost, for instance, the express mail operation of the UK Post Office, has established itself as the second largst of the 125 companies offering overnight international delivery services from Britain.

World Weather

		°C	°F			°C	°F			°C	°F			°C	°F
Ajaccio	F	23	73	Dubrovnik	S	25	77	Malta	S	25	77	Rhodes	S	28	82
Algiers	F	28	82	Edinburgh	R	10	50	Manchester	C	12	54	Rio de J'o	C	24	75
Amsterdam	R	11	52	Faro	S	25	77	Manila	S	35	95	Rome	S	26	79
Athens	S	26	79	Florence	F	27	81	Melbourne	S	16	61	Salzburg	R	12	54
Bahrain	S	33	91	Frankfurt	C	14	57	Mexico City	C	20	68	San Francisco	C	17	63
Bangkok	R	32	90	Funchal	S	23	73	Miami	C	28	82	Seoul	F	26	79
Barcelona	F	21	70	Geneva	[illegible]	17	63	Milan	C	19	66	Singapore	S	31	88
Beirut	S	27	81	Gibraltar	S	25	77	Montreal	C	21	70	Stockholm	F	18	64
Belfast	C	10	50	Glasgow	R	11	52	Moscow	F	24	75	Strasbourg	C	14	57
Belgrade	S	29	84	Guernsey	C	12	54	Munich	R	12	54	Sydney	F	17	63
Berlin	C	15	59	Helsinki	S	18	64	Nairobi	C	22	72	Taipei	R	26	79
Biarritz	C	13	55	H. Kong	C	26	79	Naples	S	28	82	Tangier	S	29	88
Bombay	F	28	82	Innsbruck	R	13	55	Nassau	C	30	86	Tel Aviv	S	27	81
Bordeaux	F	16	61	Inverness	F	10	50	New Delhi	S	38	100	Tenerife	S	28	82
Brussels	R	11	52	Islamabad	C	41	106	New York	C	22	72	Tokyo	S	30	86
Budapest	S	27	81	Istanbul	S	23	73	Nice	S	22	72	Toronto	R	22	72
B. Aires	S	20	68	Jakarta	R	33	91	Nicosia	S	20	68	Tunis	S	34	93
Cairo	S	30	86	Jersey	C	13	55	Oporto	C	15	59	Valencia	F	23	73
Cape Town	S	20	68	Jo'burg	S	17	63	Oslo	C	12	54	Venice	R	22	72
Caracas	C	27	81	Lima	C	22	72	Paris	F	13	55	Vienna	C	24	75
Casablanca	F	21	70	Lisbon	F	21	70	Peking	—	—	—	Warsaw	F	24	75
Chicago	S	32	89	London	R	14	57	Prague	C	13	55	Washington	S	23	73
Cologne	C	13	55	Los Angeles	C	24	75	Reykjavik	C	9	48	Zurich	R	9	48
Copenhagen	C	14	57	Luxembourg	C	12	54								
Corfu	S	27	81	Madrid	F	19	66								
Dallas	F	20	68	Majorca	C	21	70								
Dublin	R	11	52	Malaga	S	27	81								

Readings at mid-day yesterday:
C–Cloudy D–Drizzle F–Fair Fg–Fog H–Hail R–Rain S–Sun Sl–Sleet Sn–Snow T–Thunder

Seoul's tearful residents

Continued from Page 1

tion was projected at $17m for 1987. The cost for the whole of last year is likely to be somewhat higher due to the substantial supplies of gas dispensed at the Konkuk University siege in October and at a large demonstration in downtown Seoul in November.

This year's total will be *boosted* by the police activity in the provincial city of Kwangju, where residents last month commemorated the 1980 uprising against the Chun Government. So much tear gas was used that one local resident was moved to comment that it was "like a campaign to exterminate insects."

Shops, offices, restaurants and hotels were forced to close and hoses were brought out to wash away the powder residue left behind by shells. Sales of facemasks rocketed (for better protection, smear the inside of the mask with toothpaste). Riot police themselves are issued with full, face gas masks.

While people may not object to *the police retaliating* when they are attacked by students throwing stones or molotov cocktails, the potential effect on the health of innocent people appears to be a matter of growing condern. As one newapaper columnist, appealing for research into the medical effects, commented: They have a right to know. Their health and life may be at stake."

SECTION II – COMPANIES AND MARKETS
FINANCIAL TIMES
Tuesday June 9 1987

Bernard Simon, recently in Anchorage, examines flourishing entrepreneurial skill in Arctic wastes

Eskimo traditions embrace capitalist spirit

LIKE MANY of Alaska's 70,000 Eskimos, William Hensley is still skilled at hunting caribou and pulling Arctic char from an ice-cold river. But Mr Hensley, aged 47, is also one of a new generation of native Americans in the Polar Bear State who are using a unique form of co-operative enterprise to hone their business talents.

As president of Nana Regional Corporation, based in the northwest Alaskan village of Kotzebue, Mr Hensley heads one of a dozen Eskimo-owned companies which are trying to combine the profit motive of modern capitalism with the traditions of a closely knit subsistence society.

Nana earned a profit of almost US$2m last year from such varied businesses as oil drilling, a hotel and a diversified securities portfolio worth about $3m. The investments of its counterparts in other parts of the state include a Connecticut television station, a timber export agency and the Hilton and Sheraton hotels in Anchorage. Several have formed joint ventures with big energy companies to provide services on the North Slope oilfields.

The corporations have paid their shareholders an average dividend of about $600 since they were formed in 1971. The minimum qualification to be a shareholder is one native grandparent.

But Mr Hensley notes that "our people traditionally don't respect someone who is just chasing after dollars." As a result, some of the corporations are also heavily involved in efforts to maintain Eskimo values and culture in the face of television, tourism and the other hallmarks of the modern North American way of life.

Side by side with its business interests, Nana runs a "spirit" camp for 300 children each summer to imbue them with Eskimo values and skills. It has built a museum in Kotzebue, and meets regularly with elders from neighbouring villages. Posters above the computer terminals in Nana's offices exhort such values as respect for elders, humility, love for children, hunter skills and knowledge of the family tree.

The regional corporations' most immediate challenge is very much a creature of corporate life in the late 20th century. The threat of a hostile takeover bid has forced them to mount a full-scale lobbying effort in the US Congress and the Reagan Administration.

Predators are expected to start stalking the corporations soon if Congress does not protect them from unfriendly takeover bids by amending the Alaska Native Claims Settlement Act (Ancsa).

The Act, passed at the start of Alaska's oil boom in 1971, set up the corporations as an Alaskan alternative to the problem-ridden reservations set aside for North Americans Indians on the prairies and other parts of the contiguous US.

One aim was to give Alaska's native people a stake in the oil boom. Thus, Ancsa lays down that each corporation must split 70 per cent of its resource revenues among all 12 entities.

Ancsa ceded 44m acres of land to the corporation in settlement of claims by Alaska natives based on their aboriginal use and occupancy. About 80 per cent of the land has already been selected and transferred.

These land holdings have enabled Sealaska Corp, based in the south-east part of the state, to build up a timber business exporting to the Far East.

The world's richest zinc mine is about to be built on Nana-owned lands, 90 miles north of Kotzebue. Nana is already receiving an advance royalty of US$1m a year from Cominco, the Canadian mining group, which it has chosen to operate the Red Dog mine. Nana's share of the mine's profits will start at 25 per cent, rising to 50 per cent over 25 years.

The concerns about unfriendly takeovers arise from an Ancsa provision that existing shareholders in the corporations will be allowed to sell their stock to non-natives from December 1991.

The US Interior Department supports this provision on the grounds that its repeal would be unfair to individuals who wish to sell their stock.

Native groups are nervous, however, that the present law will clear the way for white-owned businesses to take control of institutions which, besides their business interests, have become an integral part of community life.

Ms Janie Leask, president of the Alaska Federation of Natives, says that "we feel that the Claims Act was a group settlement, not an individual settlement."

Some of the companies that have formed joint ventures with the corporations are concerned that they may end up with unwelcome partners if Congress does not amend Ancsa.

The corporations' activities have so far had mixed results. Nana, widely recognised as one of the most successful, paid a dividend of $1.25 a share last year. Shareholders in another corporation received a windfall bonus of $25,000 each following a timber auction.

On the other hand, the Bering Straits Native Corp, whose territory covers much of the Seward Peninsula, filed for bankruptcy last year. Some corporations have suffered from a dearth of business expertise. Subsistence fishermen, technicians and, in one case, a basketball coach have found themselves at the helm.

Arguably, however, their accomplishments cannot be measured only in figures. Ms Leask says that the corporations have "given native people political and economic clout in the state."

Genstar in $200m property disposal

By William Hall in New York

AMERICAN GENERAL, one of the biggest US insurance companies with assets of $24bn, is paying $200m for the US property development business of Genstar, the financial services conglomerate taken over last year by Imasco, the Canadian affiliate of BAT Industries.

Houston-based American General announced yesterday that it would purchase the land-development division of Genstar Land-USA and its joint venture interests.

The acquisition consists of six residential projects under active development in San Diego, Phoenix, Vancouver, Orlando and Miami totalling 8,500 acres.

Three undeveloped residential, commercial and industrial sites totalling another 3,400 acres are also included.

American General will create a new joint venture, consisting of one of its mortgage property subsidiaries and the Newland Group, which will have a 25 per cent stake and be the development partner.

Newland will be formed by Mr Robert B. Mcleod, president of Genstar Land-USA and Mr Paul T. Cole, its executive vice president.

The sale of Genstar's US property development operations is the latest in a growing list of disposals following Imasco's takeover.

Imasco has raised about C$2.6bn from the sale of Genstar's assets which is roughly in line with the C$2.6bn it paid to acquire the company whose most valuable asset is its Canadian Trustco Mortgage Company, parent of Canada's biggest trust company.

Imasco inherited another C$2.3bn of debt and tax obligations as well.

Anglovaal expects 38% upturn in earnings to R127m

BY JIM JONES IN JOHANNESBURG

ANGLOVAAL, the smallest of South Africa's five mining houses, estimates that it will lift its attributable taxed profit by 38 per cent to R127.6m ($37.5m) in the year to June 30 1987 from R92.4m in the preceding year. The ordinary dividend has been lifted to 585 cents a share from 450 cents.

The house does not itself manage the day-to-day operations of the mining and industrial interests it controls. That is left to subsidiary companies which have already declared the profits accruing to Anglovaal this financial year. It also allows the house to declare its attributable profit ahead of the financial year's end.

Mr Clive Menell, the deputy chairman, says that almost all of the industrial companies controlled by Anglovaal Industries (AVI), Anglovaal's 66 per cent owned subsidiary, enjoyed markedly improved trading conditions and benefited from lower interest rates.

AVI has extensive food, engineering, construction, textiles and electronic interests. The gold mining companies managed by the house suffered from lower rand gold prices in the first quarter of 1987.

Nevertheless, Hartebeestfontein, the largest of the group's mines, has lifted its total dividend to 23.5 cents a share from 18.5 cents. Middle Witwatersrand, the group's mining holding company, increased its total dividend slightly to 160 cents from 155 cents.

The group's largest non-gold mining company is Associated Manganese, which produces ferroalloys and manganese and iron ores. Demand for manganese ore and alloys has been comparatively poor, but its ferrochrome unit has benefited from good demand by stainless steel producers.

At present new mine development plans are concentrated on gold. The group is nearing completion of a drilling programme to the north of its Loraine mine in the Orange Free State and is expected to announce new mine development plans within a year.

Pay 'n Pak Stores to sell out to Rosewood

PAY 'N PAK Stores, the US specialised do-it-yourself retailing group, has reached a definitive agreement to be acquired by Rosewood Holdings, a newly formed company, Reuter reports from New York.

Under the agreement, shareholders will receive, on a blended basis, $17 per share in cash and one preferred share of Rosewood, with a 17 per cent dividend and a $4.25 liquidation preference.

Rosewood is controlled by a group of senior Pay managers, including Mr David Heerensperger, the chairman, Citicorp Capital Investors, and other investors.

Pay 'n Pak said the transaction was a tender offer for 81 per cent of its outstanding shares at $21 in cash per share, and a second-step merger of a unit of Rosewood with Pay.

Each Pay common share will be converted into a preferred share of Rosewood with a $22.31 liquidation preference and the right to receive a pro-rata portion or any remaining cash, if less than 81 per cent of the common are purchased in the tender offer.

FN sees lower losses

BY OUR FINANCIAL STAFF

FN HERSTAL, the diversified Belgian weapons and leisure goods maker, aims to keep this year's losses minimal despite recording a net deficit of BFr 631m ($16.7m) in the first quarter of the year.

FN said its first-quarter loss was considerably bigger than expected, while parent company turnover, at BFr 3.05bn, was BFr 1.10bn below target. FN has not published quarterly figures before.

The company attributed the worse-than-expected result to the continued weakness of the dollar, lower oil prices and a time lag in reaping the benefits of internal cost-cutting measures. FN noted that its results were normally better in the second half of the year than the first.

FN reached agreement with shareholders in April on a financial restructuring plan involving the injection of BFr 1.63bn of new capital, consolidation of debt and BFr 1.5bn in new borrowing facilities.

FN slumped to a group net loss of BFr 2.8bn last year after posting a BFr 8.8m net profit in 1985.

Continental to sell subsidiary

CONTINENTAL Illinois has agreed to sell its Toronto Unit to Swiss Bank of Canada for undisclosed terms.

Continental said the gain from the sale of Continental Illinois Bank of Canada, which had total assets of C$420m (US$315m) would not have a material effect on its consolidated operating results.

The transaction has received approval in principle from Canadian banking authorities, Continental said.

Indian trust in US move

THE UNIT TRUST of India (UTI) is to launch a $100m investment fund in the US in collaboration with merchant bankers Merrill Lynch, Reuter reports from Bombay.

Merrill Lynch will market the fund, which will be listed on the New York Stock Exchange, and UTI will invest the money collected in Indian shares, a UTI official said. Details are still being worked out.

UTI launched its first investment fund, the India Fund, in Britain last year, also in collaboration with Merrill Lynch. The envisaged £60m ($97.8m) fund was oversubscribed twice but UTI granted applications for only £75m.

"The decision to tap the US market follows the overwhelming response we had from India Fund," the UTI official said.

The net asset value of the India Fund had risen 10 per cent since its launch in September and a first dividend would be paid shortly, he said.

Andrew Fisher explains why the VW agm might involve stormy scenes

Bankers put Hahn in the firing line

MR CARL HAHN, chairman of Volkswagen, will be just one day past his 61st birthday when the West German motor group faces shareholders at the annual meeting on July 2. He may well feel a good deal older before the day is out.

Likely to dominate and enliven the proceedings are the implications of the currency shock that has cost VW up to DM 473m ($263m), although it still made high profits in 1986, and cast a pall over a concern that has been virtually synonymous with the country's post-war *Wirtschaftswunder*, or economic miracle.

Apart from the cost of the fraud and the sad fact that it came to light just ahead of what should have been magnificent celebrations for VW's 50 millionth car, a snow white Golf, the affair has thrown a harsh spotlight on VW's management practices.

Carl Hahn: management under scrutiny

It is these that could well come under further close scrutiny and sharp questioning at the agm in Wolfsburg, the VW factory town close to East Germany. They have caused West Germany's three big commercial banks to agonise in recent days over how to advise their clients to vote.

In the event, the banks have not done anything very dramatic. Waving the big stick, at least in public, is not their style. Basically, they are waiting for the result of an independent accountants' report, which should be ready before the July meeting.

Until that arrives, they are unsure what to tell clients who have VW shares deposited with them. The report may either absolve the management of all responsibility for the currency fraud and for not finding out about it earlier, or decide that it should bear some of the blame.

The crucial part of the meeting will come when voting occurs on the motions to "relieve" the management and supervisory board, or in other words to ratify their actions for 1986. This amounts to an effective vote of confidence in the directors.

It is on these two motions that the banks have been wondering what to do. Deutsche Bank decided to tell clients to abstain, unless the report indicated otherwise. Commerzbank said they should vote for the board, but also left open the possibility of different action if the report justified this.

Dresdner, the last to decide, opted for a slightly different approach, namely to wait for the report being prepared by Deutsche Treuhand. If this showed the board was tardy or negligent in dealing with the foreign exchange fraud, then the motion at the agm should be opposed. Otherwise, it should be approved.

Dresdner also said voting on the motions should be adjourned, if this seemed necessary. The report, commissioned by VW, is expected to be available in time for shareholders to take a view in reasonable time ahead of the AGM.

Does all this activity mean that Germany's big financial institutions are ready to take a more openly active, and if necessary even hostile, attitude towards corporations? Hardly. The German style is to do these things behind closed doors, if at all, and not in full view of a curious public.

However, the advice of the big banks to clients is unusual enough to indicate that the wind has started blowing in the right direction, according to some analysts. "It is a slight rap on the knuckles for VW," said one. "Definitely a move for the better," added another.

Will it make any difference? At the agm, the board is likely to get its "relief," since the Government and the state of Lower Saxony jointly hold 40 per cent of the voting capital. Mr Hahn himself is said to be unworried by reports of big bank opposition and even of moves to replace him.

He will most likely need all his diplomatic and public relations skills on July 2, though. Interestingly, Mr F. Wilhelm Christians, co-chairman of Deutsche Bank, is on the VW supervisory board. The bank is thought to be more than a little put out that the fraud was announced only a few months after it led a DM 2.1bn rights issue for VW.

Mr Christians has been sounding off against shareholders who prolong and disrupt annual mettings—rarely short affairs at best—for political reasons. At VW, however, the agitation is not likely to be political, but very definitely related to the group's management and financial performance.

Conti-Gummi to bid for US tyre group

By Our Frankfurt Staff

CONTINENTAL Gummi-Werke, the West German tyre company, plans to make a definite offer for General Tire and Rubber of the US, after approval of the proposed investment by its supervisory board.

Conti-Gummi recently signalled its intention to expand outside Europe, especially in the US, planning to raise over DM 1bn ($560m) in new share and loan issues to finance this. It already has DM 300m set aside for acquisitions.

Mr Helmut Werner, chairman of Conti-Gummi, said last month that the company hoped to bid for General Tire, which already produces 300,000 tyres a year for the German company under licence. No price has been mentioned, but US analysts put the likely figure at between $500m and $700m.

In Ohio, General Tire, the fourth biggest tyre company in the US market, said it had still not been decided whether its disposal should be through a bid such as that planned by Conti-Gummi, a management buy-out, or a public share issue.

However, it aimed to decide quickly. Last year, General Tire earned net income of $40.3m on sales of $1.12bn. General Tire is being sold by Gencorp, its parent, to help meet the $1.6bn costs of a takeover defence.

General Tire, which employs 10,000 people and has five US plants, said Pirelli of Italy had also shown interest, but had not yet said whether it wanted to bid.

Elsevier presses on with bid for Kluwer

BY LAURA RAUN IN AMSTERDAM

ELSEVIER, the Netherlands' second largest publishing company, is pressing ahead with its hostile takeover bid for Kluwer, the third biggest publisher, and has indicated that it has begun buying shares in the open market.

Mr Pierre Vinken, Elsevier's chairman, said yesterday that he "assumed" Kluwer shares were bought late last week and that he would find out today how many and at what price. Financial analysts in Amsterdam widely believe that the predator jumped into the market after its surprise announcement last Wednesday and purchased Kluwer shares at an average price of Fl 300, which would value the company at around Fl 720m ($358m).

Kluwer closed at Fl 327 per share on Friday on the Amsterdam stock exchange, a 23 per cent jump from its level of Fl 266 before Elsevier's announcement that it was considering such a bid. The bourse was closed yesterday for Whit Monday.

If Elsevier acquires 50 per cent or more of Kluwer's shares it must be announced publicly.

Mr Vinken, an ambitious chairman who aims to make Elsevier one of the world's biggest publishers, confirmed yesterday that his company would make a public tender offer in cash or stock despite Kluwer's determined opposition. He and Mr Joop Alberdingk Thijm, chairman of Kluwer, are to meet tomorrow at Elsevier's invitation.

Kluwer will continue to fight the unwanted bid regardless of the offering price, it said yesterday. It flatly rejected speculation that a high enough offer would capture the Deventer-based publisher.

If Elsevier, which is based in Amsterdam, were to succeed in taking over Kluwer the resuting company would be a world leader in scientific and professional journals with annual turnover of about Fl 2.5bn. Both companies are strong in scientific, professional and academic publications at home and abroad, including English-language ones, and also have newspaper and book interests.

Mr Alberdingk Thijm explained confidently last week that Kluwer opposed Elsevier's overtures because the smaller publisher doesn't share its bigger rival's aspirations. Kluwer prefers to foster creativity through smaler operating units and to focus more on the domestic Dutch market, he said.

The battle between the publishers, which mirrors similar struggles in London and New York, is the Netherlands' most bitter takeover fight in recent years. Such clashes are rare because companies have wide powers to protect themselves against unwanted advances although those powers could be tested in the courts.

Kluwer said it is prepared to issue preferred stock as soon as this week, which would be placed in an existing, internal foundation controlled by the supervisory board. The new preferred stock could put as much as 51 per cent of the voting rights under control of the supervisory board.

Another 100 priority shares already are in a separate foundation, also controlled by the supervisory board.

Italtel lifts turnover 12%

ITALTEL, the Italian state telecommunications company, said consolidated turnover in the first quarter rose 12.1 per cent to L267bn ($203m) from L235bn in the comparable 1986 period, Reuter reports from Milan. Italtel said the turnover rise was achieved despite a fall in the price of electronics products, which represent 80 per cent of the group's production.

Fiat suspends Brazilian investment

By Ann Charters in Sao Paulo

FIAT BRAZIL has suspended of US$300m investment plan for this year and next due to the "extremely grave outlook" for the Brazilian economy.

Mr Silvano Valentino, director superintendent of Fiat in Brazil, said that the company lost $18m in the first quarter of this year because of the drop in domestic sales, an inability to recover increased costs through price rises and an unrealistic exchange rate.

Mr Valentino said that the Government held out "rational hopes" that the economic situation would stabilise.

The Brazilian motor industry, which has seen domestic sales drop 36.8 per cent in the first five months of this year, is due for a 40 per cent price increase today.

Mr Valentino said the industry is requesting a price rise based on increased costs over the past 30 days, including higher government-controled steel and energy prices.

With inflation running at more than 20 per cent and automatic salary increases triggered for workers, industrial companies operating in Brazil have seen their costs surge.

The motor industry has asked the Government to further cut its taxes.

In 1986, Fiat Brazil had net profits of $65m. Mr Valentino said unless official action is taken to ease the cost pressures some companies will fall into loss.

Fiat's investment plans were aimed at expanding production capacity from 270,000 to 300,000 vehicles a year and to introduce new models. The company has just completed the first $300m stage in what was to have been a $600m investment programme.

Swedish chemicals group raises profits by 39%

BY KEVIN DONE, NORDIC CORRESPONDENT IN STOCKHOLM

PERSTORP, the Swedish speciality chemicals and plastics group, increased its profits (after financial items) in the first eight months of the current financial year by 39 per cent to SKr 303m ($48m) compared to SKr 218m.

In the eight months to the end of April, group turnover rose by 9 per cent to SKr 2.89bn from SKr 2.65bn in the corresponding period of 1985-86.

Most of the group's business areas reported higher sales, but the main increases came from the plastic systems and biotec divisions.

Mr Karl-Erik Sahlberg, group chief executive, said that profits for the full year are expected to top SKr 400m compared with SKr 313m. Earnings per share in 1986-87 should rise to more than SKr 11.00 from SKr 8.55 a year ago.

Group capital investments are high and are expected to total SKr 300m this year compared with SKr 269m in 1985-86. Perstorp said, however, its financial position remained "strong", and that the investments and increased working capital had been financed from profits.

Perstorp has made acquisitions to strengthen existing business areas including most recently the takeover of IKI, Finland's leading producer of decorative plastic laminates, from Metsä-Serla, the Finnish pulp and paper group.

Perstorp Compounds has also reached an agreement with Dynamit Nobel to acquire the West German group's production and trade-marks in the area of amino moulding compounds.

Perstorp has also licensed its formaldehyde production process to Du Pont, marking its breakthrough in to the US market in this sector.

State control for Malaysian group

BY WONG SULONG IN KUALA LUMPUR

TAN SRI Chong Kok Lim, the beleaguered Malaysian businessman, has given up control of Landmarks Holdings, his listed company, to a government agency as a compromise to allow him more time to work out a solution to debts of as much as 922m ringgit (US$376m).

A consortium of foreign banks had requisitioned an extraordinary meeting, scheduled for yesterday, to remove him and his three sons from the Landmarks board.

However, the Chong family pre-empted the move by resigning and allowing Peremba, the government property company, to take over management control. Tan Sri Chong and one son were later invited to join the board.

Peremba, which holds 30 per cent of Landmarks, now has four directors on the eight-member board.

Tan Sri Chong said his action was in part to satisfy the foreign banks, and also to ensure that the Landmarks group is not dismembered if it falls under the control of foreigners.

Landmarks owns the Regent Hotel and the popular Sungei Wang shopping complex in Kuala Lumpur, and is also involved in property development and plantations.

The foreign banks — including Westpac of Australia, American Express and Manufacturers Hanover of the US, and Britain's Hill Samuel — had requisitioned the meeting following the breakdown in negotiations with the Chong family over non-payment of their loans.

According to a report prepared by Arthur Young, the accounting firm, on behalf of the family, the Chong Kok Lim group of companies has accumulated liabilities of 922m ringgit, about a third owed to foreign banks. The value of assets pledged is estimated at 1.06bn ringgit, the bulk of which is in land, which is hard to realise in the current depressed property market.

Also among the assets pledged are 44.6m Landmarks shares, representing 19 per cent of the company, a holding which the banks had used to call the meeting.

Tan Sri Chong, aged 75, yesterday appealed to his foreign creditors to allow him time to work out a rescue plan. He said he was honouring all his commitments, and said "the prolonged economic recession in the country has badly affected my businesses, which are mainly in properties or are property-related."

Osaka stock futures face tough start

THE START of limited stock-index futures trading on the Osaka stock exchange today is a test of the country's new financial markets, but some experts warn that the new trading system could get off to a slower start than expected, writes **AP-DJ in Tokyo.**

Legislative snags and soaring cash market prices for many of the 50 stocks selected for the Osaka system have taken some gusto out of trading scheduled to have begun last April.

While most market observers agree that the long-term outlook for stock-index futures trading in Japan is rosy, they argue that it will take time for the conservative cast of many Japanese investors to wear off and for the new system to become popular.

Mr Masami Nishi, senior managing director of Taiheiyo Securities' international division, notes that Osaka's new stock futures market may not attract many institutional investors because of their caution. He argues, on the other hand, that "individual Japanese investors like to speculate so the market is likely to be very successful."

Not everyone agrees. "I think the real level of interest is going to be low," says Mr Charles Elliot, director of Japanese research for Goldman Sachs.

Also on the horizon is the possibility of competition from the Tokyo Stock Exchange (TSE), the largest of Japan's eight major securities exchanges. The TSE is already exploring the idea of starting trading in stock index futures by 1988, while a finance ministry panel formed last December is studying the possibility of introducing stock index futures and options trading throughout the country.

Mr Toyoe Gyohten, vice Finance Minister for international affairs, said last week the ministry would make a "vigorous study" to enlarge the scope to include currency, deposit and other forms of futures trading.

Egypt turns down Bank of America sale plan

By Tony Walker in Cairo

EGYPT'S central bank has quietly turned down a Bank of America request to divest itself of its share in a local joint venture to an Islamic investment company.

Bank of America said the central bank had indicated it would not approve a transfer of the bank's 40 per cent share in Misr America International Bank (MAIB) to El Rayan Investments.

The US bank said the central bank refused the request on the grounds that El Rayan was not considered a suitable partner in such a venture.

Government officials have criticised the growing Islamic investment sector which, in some cases, has been offering returns of 20 per cent on depositors' funds.

These investment houses operate under an ill-defined set of laws, and insome cases effectively outside government control.

MAIB's shareholders, apart from Bank of America, include Misr Insurance Company, Industrial Development Bank of Egypt and Kuwait Real Estate Bank.

MAIB said it broke even last year, but it is no secret that Bank of America has been anxious for some time to divest itself of its shareholding.

El Rayan, the most prominent of the Islamic investment houses, proposed investing about $14m in MAIB, which has paid-up capital totalling $7m.

New foreign exchange regulations are believed to have persuaded institutions such as El Rayan to seek an involvement in the mainstream financial sector. But the central bank has proved reluctant to approve transfers of ownership or new shareholding arrangements in local banks.

It has also placed an effective freeze on new banks opening in Egypt, and on foreign currency branches—those authorised to deal exclusively in hard currency —converting their operations to joint ventures so they can deal as well in Egyptian pounds.

Credit Suisse has had a long-standing application to be allowed to convert its operations from those of a foreign currency branch to a joint venture. Approval has not yet been given.

Higher tax hits profits at Elbit

BY JUDITH MALTZ IN TEL AVIV

ELBIT, a leading Israeli computer and defence electronics company, shares in which are traded over-the-counter in New York, has recorded a 12 per cent drop in its after-tax profits for the year to March, to US$16m.

The downturn was attributed to a sharp increase in the company's tax burden during the last financial year to $7m, since in gross terms Elbit profits rose by $1m over the previous year.

Exports, meanwhile, grew by a healthy 15 per cent to $108m, mostly to the US and Western Europe. Mr Emmanuel Gil, the company's president, said, however, that most of this increase was offset by cuts in orders from the Israeli Defence Ministry, which is traditionally Elbit's main customer. As a result, total sales rose by less than 4 per cent to $176m.

Mr Hill added, though, that he was pleased with the company's "improved status in the international market, especially in the US." Thanks to its export success, Elbit has been one of the few Israeli defence companies to consistently show profits over the past several years. Its order backlog stood at $258m by the year end.

Elbit is a subsidiary of Elron Electronic Industries.

Sony and US Prudential discuss split

BY YOKO SHIBATA IN TOKYO

SONY, the Japanese electronics group, is believed to be in talks with Prudential of the US aimed at severing their links in a joint venture life assurance operation to enable each company to develop its own insurance business in the country.

Sony Prudential Life Insurance was set up in April 1981 and now has assets of some Y4.95bn ($34.4m). Prudential is now exploring the possibility of establishing a new fully-owned subsidiary in Japan, while Sony intends to take over a 20 per cent stake in a joint venture from Prudential to lift its holding in the joint venture to 70 per cent. This will enable Sony to move into the life assurance business in its own right for the first time.

Under this plan, 30 per cent of Sony Prudential would still be held by Pruco, a subsidiary of Prudential. Sony would allocate 5 per cent each from its expanded holding to Mitsui Bank and Mitsui Trust Bank.

Industry officials in Tokyo said Prudential has expressed its desire to engage in the life assurance business in Japan by itself. Foreign life companies have in the past been steered by the Ministry of Finance to invest through joint ventures with Japanese partners. However, Equitable Insurance was allowed to launch a Variable Insurance venture in its own right, and Prudential subsequently sought similar permission.

Sony views the Prudential plan as a long coveted opportunity to move further into the life business itself. Established Japanese life companies said Prudential's move is the inevitable course of events—but they showed strong dissent to the idea of granting life assurance licences to major manufacturing enterprises.

Plate Glass increases sales and income

BY JIM JONES IN JOHANNESBURG

PLATE GLASS and Shatterprufe Industries (PGSI), the South African-owned glass and timber products distributor, increased sales by 20 per cent in the year to March and is budgeting for further growth in the current year.

Turnover increased to R1.68bn ($832m) from R1.40bn and pre-tax profits were R115.5m against R80.6m.

PGSI has subsidiaries in Australia, the US, Britain, Europe and South East Asia, and in other African countries. South Africa generally provides just 40 per cent of turnover and 50 per cent of earnings.

Net earnings per share rose to 305.0 cents from 202.6 cents and the dividend has been increased to 145 cents from 105 cents.

INTERNATIONAL CAPITAL MARKETS and COMPANIES

Venice summit subdues secondary market trading

BY CLARE PEARSON

THE VENICE meeting of heads of leading industrialised nations, and the Whitsun holiday on the Continent, combined to keep trading in the Eurobond market in London subdued yesterday.

Dealers were expecting the low turnover to continue for the next two days, unless any significant new initiatives surfaced in Venice. After that, the Eurodollar sector at least would be unlikely to see much action ahead of key US trade deficit and producer prices figures due on Friday.

New issue activity was curtailed in response to the lacklustre mood of the secondary market. But a couple of equity warrants bonds for Japanese borrowers emerged, as prices of selected outstanding issues firmed in response to a strong overnight performance by the Tokyo stock market.

These were a $60m deal for Kansai Paints, led by Yamaichi International (Europe), and a $50m bond for Matsuya, the retailer, led by Daiwa Europe. Both five-year bonds, with indicated 1⅝ per cent coupons, traded at around or slightly above par.

Daiwa was also busy yesterday trying to organise the new group for its re-launched $100m bond for Minebea, which was being issued through Daiwa Singapore. Nomura International last Friday withdrew the European tranche of the same issue following a very poor grey market trading performance during its first few days.

The Asian tranche had had to be relaunched because, since the two issues had traded interchangeably, it had been impossible to unravel those trades just affecting the European tranche. Daiwa is also adding ⅛ percentage point to the indicated coupon level on the new bond, bringing it to 1⅝ per cent.

INTERNATIONAL BONDS

Daiwa had not finalised the members of the new group yesterday, but said that Credit Suisse First Boston, which had been a co-lead manager, had declined to rejoin.

Dealers speculated that the discounts, of up to 10 points, at which the bond had traded had frightened the company into agreeing to withdraw the European tranche. In 1985 Minebea became the object of a hostile takeover bid by Trafalgar-Glen, a US/British partnership, which amassed a 30 per cent stake in the company mainly by buying up cheap equity warrants.

Elsewhere yesterday, Bankers Trust International led a $130m deal for Tops Series Four, which followed three earlier floating-rate note issues created by parcelling up the "rump" bonds of outstanding equity warrants issues, and swapping them into floating-rate loans.

This floating-rate note issue is backed by about $186m worth of "ex-warrant bonds," of which 70 per cent were guaranteed by Japanese banks, and 11 per cent were launched by triple A rated companies. The remaining issues were for Fujitsu, Sumitomo Corporation, Sumitomo Realty, and Mitsubishi Chemical.

The five-year FRN, paying six-month London interbank offered rate plus 15 basis points, traded at around par, compared with a 100.10 issue price and 15 basis points fees.

Euroyen bonds were firmer in quiet trading, and Mitsui Finance International led a Y10bn four-year 8 per cent bond for Denmark, priced at 115.125. It traded at less 1¼ bid, compared with 1⅞ per cent fees.

Futures in Japanese long-term bonds

JAPAN'S Ministry of Finance is to allow futures trading in 20-year government bonds when the volume of spot dealings is "large enough," the ministry said, AP-DJ reports from Tokyo.

The MoF declined to specify the level of spot trading that could lead to the start of futures dealings but said it "will start when we consider the volume of spot trading to be large enough so that there is a minimal chance for a buy-out of the bonds by certain market players." The creation of a solid circulation market for the bonds is also a key to an early start of futures trading.

Futures trading in 20-year bonds represents a continuation of the MoF's recent efforts to further liberalise and internationalise Japan's financial markets, in part to allow increased participation of foreign securities companies and certain other financial institutions. Last week the ministry announced that it will adopt an auction system, replacing the present method of an underwriting syndicate, for selling 20-year government bonds this autumn.

Increased trading in 20-year bonds is also considered to be beneficial, as it could lower interest payments for the government and thus minimise costs.

FT INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market.

Closing prices on June 8

US DOLLAR STRAIGHTS; YEN STRAIGHTS; OTHER STRAIGHTS; FLOATING RATE NOTES; DEUTSCHE MARK STRAIGHTS; CONVERTIBLE BONDS; SWISS FRANC STRAIGHTS

SWISS FRANC STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
[illegible]						
EIB 4⅞ 97	200	†98⅞	98⅞	0	0	4.77
Glendale F. S. & L. 5⅜ 95	100	†102¼	102¼	0	0	5.15
Humana 5⅞ 98	220	†99⅝	99⅞	0	+1⅛	5.25
Industrial Credit 5¼ 96	75	†99½	99½	0	0	5.81
Japan Dev. Bk. 5⅛ 97	100	†102¼	102¼	0	−0¼	4.84
Oberos. Kftwk. 5⅞ 95	100	†103¼	103¼	0	−0½	4.85
Olivetti Intl. 5½ 95	100	†104¼	104¼	0	+0¼	4.85
Pepsico 5¼ 95	130	†104¼	104¾	0	+0⅝	4.51
Prov. of Manitoba 4¾ 94	200	†102⅞	102⅞	0	+0⅛	4.37
Ralston Purina 5⅞ 94	125	†103¼	103⅞	0	+0¼	4.82
Settsu Euro. 0 01	100	†46⅞	46⅞	0	+0¼	5.71
Tohoku Elec. Pwr. 4⅞ 96	150	†99¼	99¼	0	−0⅛	4.98
USX Corpn. 5¼ 98	100	†98¼	98¼	0	0	5.97
World Bank 5¾ 94	150	†105½	105½	0	+0¼	4.85

Average price change on day 0 on week +0⅛

* No information available—previous day's price.
† Only one market maker supplied a price.

Straight Bonds: The yield is the yield to redemption of the mid-price; the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week=Change over price a week earlier.

Floating Rate Notes: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte=Date next coupon becomes effective. Spread=Margin above six-month offered rate (‡ three-month; § above mean rate) for US dollars. C.cpn=The current coupon.

Convertible Bonds: Denominated in dollars unless otherwise indicated. Chg. day=Change on day. Cnv. date=First date for conversion into shares. Cnv. price=Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem=Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

The prices over the past week were supplied by: Kredietbank NV; Commerzbank AG; Deutsche Bank AG; Westdeutsche Landesbank Girozentrale; Banque Generale du Luxembourg SA; Banque Internationale Luxembourg; Kredietbank Luxembourg; Algemene Bank Nederland NV; Pierson, Heldring and Pierson; Credit Suisse/Swiss Credit Bank; J. Henry Schroder Wagg and Co.; Bank of Tokyo International; Chemical Bank International; Chase Manhattan; Citicorp International Bank; Daiwa Europe NV; Credit Commercial de France (Securities); EBC Amro Bank; LTCB International; Robert Fleming and Co.; First Chicago; Goldman Sachs International Corporation; Hambros Bank; IBJ International; Kidder Peabody International; Merrill Lynch Pierce Fenner and Smith; Morgan Stanley International; Nikko Securities Company (Europe); Nomura International; Orion Royal Bank; Samuel Montagu and Co.; Societe Generale Strauss Turnbull; Sumitomo Finance International; Swiss Bank Corporation International; S. G. Warburg and Co.; Wood Gundy.

Alexander Nicoll on the industry springing up from the Third World lending crisis

Debt/equity swaps come out of the closet

"THIS WAS a market in the closet before," says Mr Martin Schubert, one of the founders of the secondary market in Third World loans. "Now, it's out of the closet."

One of the effects of Citicorp's landmark decision—now followed by some other US banks—to add $3bn to its loan loss reserves has been to open up the possibilities for trading and swapping of debt. But Mr Schubert, chairman of European InterAmerican Finance Corporation, and many other New York bankers argue that the growth of the secondary market is likely to remain slow.

The secondary debt market, often referred to even by its participants as a "bazaar" with little depth, transparency or liquidity, is nevertheless part of a dynamic and growing industry being built around the developing country debt crisis.

The large creditor banks, recognising that debt problems will take far longer to overcome than they had previously hoped, are looking for new ways to "liquefy" their portfolios—the term used by Mr John Reed, chairman of Citicorp, which says it will now actively participate in debt/equity swaps and sales of its own loans. Previously, it had mostly acted as a broker for such transactions.

Most of the New York money centre banks, such as Morgan Guaranty and Bankers Trust as well as Citicorp itself, have established departments in this area, and are actively looking for competitive opportunities.

The effect of Citicorp's move is paradoxical.

Many US banks had previously been active, if quiet, swappers of their Third World loans—trading, say, Mexican exposure perhaps for Colombian or some other paper viewed as a better credit. They have mostly done so without altering the accounting status of their exposure—in other words, continuing to value the loans at 100 per cent of face value.

Citicorp's decision changes this picture. Many banks believe the new openness of the market will force accountants to re-value swapped debt at the going market value, even if the debt being acquired is of higher value than the old.

This might be expected to discourage banks from swapping. But Citicorp's example in fact clears the decks for many more transactions, since the expanded loan loss reserve is designed to allow it to take the accounting losses involved. Indeed, one of the main consequences of the expanded reserves is to liberate banks from the balance sheet considerations which have cramped their approach to the debt crisis.

This does not mean, however, that the secondary market is poised for massive and immediate growth. It is estimated to have reached roughly $5bn last year.

Most deals form part of chains in which debt is swapped for debt, with the end of the chain being a conversion under a debt/equity conversion scheme, of which Chile's and Mexico's have so far had the largest volume.

Because of the unreliability of market prices and the lack, so far, of a broad investor base for Third World loans, banks lining up to sell their exposure vastly outnumber buyers.

What trading there was virtually dried up after Citicorp's announcement and prices remain quite tentative, with discounts to face value generally somewhat wider than previously.

Banks will clearly—reserves strengthened or not—not be happy to dump their loans, even if they could find buyers, at prices which entail large losses and which in any case they consider to be well below the true value of the loans.

Instead, they are likely to be looking for profitable ways to convert their own portfolios into equity and to arrange deals, on which they can earn substantial fees, for their customers.

Citicorp plans conversions of its loan portfolio into the equity of its own subsidiaries in Latin America, and in related financial services businesses. Bankers Trust has already purchased a substantial pension fund business in Chile.

In addition, however, Citicorp plans to convert debt into the equity of other non-financial companies in developing countries, at a rate of between $100m and $200m per year from this year onwards. The investments would be in small to medium-sized companies and would employ the expertise which Citicorp has already built up in venture capital.

CHILE'S is the largest debt/equity swap scheme so far, with $1.7bn of debt converted in the past two years, considerably reducing the country's $19bn external debt.

In Chile, monetary concerns are not significant because the country's budget deficit is not significant and issues of local currency can be neutralised. Swaps are open to local residents as well as foreigners.

In Mexico, $1bn of swaps were authorised last year and nearly $500m this year, and swaps are expected to continue at $100m a month. The Philippines launched a programme last year but only a small amount of debt has been converted so far. Costa Rica, Ecuador and Venezuela have also been proceeding cautiously.

Argentina is introducing a scheme with an upper limit of $300m this year and $400m for each of the next four years. Portions of the $1.95bn new loans it is seeking from banks may be applied to the "matching funds" — the additional dollar which must be put up for each debt of dollar swapped.

Bankers expect a debt/equity scheme to form part of the package which Brazil will shortly begin to negotiate with its banks. Plans are being studied in Uruguay, Peru and Colombia. Among smaller debtors, the Dominican Republic and Jamaica are planning schemes.

US bank holding companies are restricted by Federal Reserve regulations from making investments in non-financial companies exceeding $15m or 20 per cent of the voting stock of the subject company. Citicorp executives says they would like these limits to be relaxed. As it is, however, banks could acquire non-voting stock.

Nevertheless, debates raging about debt/equity swaps are likely to restrain the market's growth. Debtor countries worry about the inflationary impact on the domestic money supply of issuing local currency in exchange for dollar-denominated debt. They are also concerned that debt/equity swaps allow investors to buy in cheaply, through the discounts on the debt, when they might have made investments in any case.

Argentina, which is establishing a debt/equity programme as part of its current rescheduling package, is clearly concerned about these factors since it has stipulated that each dollar swapped must be matched by a new dollar of investment. Since this effectively halves the discount at which debt is acquired to be swapped, it is likely to discourage most investors.

Supporters of debt conversion argue that it reduces a country's outstanding debt and consequently debt service, that it should tend to narrow the discounts, that it helps banks which are consistently reluctant to participate in new loans, and that it allows money to be directed away from funding public sector deficits and towards the private sector—preferably to creditor banks' own clients.

Debt/equity swaps also depend on an attractive investment climate in the debtor country concerned, and consequently on the country's adherence to economic programmes.

Citicorp's decision has also sparked talk about a range of other possibilities, including securitisation of interest payments and even grander schemes for forgiveness, which often mistakenly assume that Citicorp and other banks have written off part of their Third World exposure.

Such schemes still seem a long way from fruition. For now, the Third World debt crisis has entered a new, competitive phase. Debt swaps are not expected to solve the debt crisis, but Citicorp's move means that they may play a more significant role in allaying it.

Sterling FRN backed by mortgages from HMC

By Our Euromarkets Staff

HOUSEHOLD MORTGAGE Corporation, the UK home lending concern, yesterday launched the third sterling floating-rate note this year to be backed by UK mortgages. The £150m deal was led by S. G. Warburg Securities.

The issue is similar in form to two earlier issues for Mortgage Corporation, Salomon Brother' home lending arm, and National Home Loans, but incorporates a number of features intended to combat investors' dislike of some of the peculiarities of such securities.

The par-priced bond, which has a final maturity in 2017, pays 25 basis points over three-month London interbank offered rate unless the "step-up" provisions come into play, when this margin will double. The bonds may be called after five years, and fees total 60 basis points.

The mortgages are insured by Sun Alliance, and the bond is expected to be rated Triple A by Standard and Poor's.

The main new feature of the deal is a step-up in interest payments after 10 years, or if the loans in the portfolio fall below £30m. This makes little difference to the issuer, which expects the average life of the bond to be seven years, but reassures the investor that the bond is very unlikely to have a maturity of over 10 years.

The issue also incorporates a provision for substitution of up to £15m of new mortgages within the first three years if existing mortgages are paid back, although the issuer so far only has insurance cover for £7.5m worth of substituted loans. Also, additions to existing mortgages up to a limit of £11.25m may be made.

The bond traded well within its fees at 99.50 bid, and Warburg said it had attracted new invesors, such as UK companies, which previously held back from buying such bonds.

Some bankers, however, doubted whether they would make much difference to the investor's view of the bond, because of the speed at which the outstanding mortgage-backed issues are being paid down. In the case of National Home Loans' bond, this is currently 1½ per cent per month, or 18 per cent on an annualised basis.

Bankers did feel, however, that the bond's provisions for making partial redemptions should appeal to investors. This involves redeeming individual bonds—as in a sinking fund structure—instead of the more normal pro rata partial prepayment of each bond.

The issuer, HMC Mortgage Notes 1, is a wholly-owned subsidiary of Household Mortgage Corporation, and the loans remain on the originator's balance sheet. This follows the pattern of Salomon's issue for its own mortgage lending subsidiary, but differs from the bond for National Home Loans.

Mr Duncan Young, HMC managing director, said that moving the portfolio off-balance sheet was not a concern as Household Mortgage Corporation is not bound by a gearing ratio. "The main aims are to lengthen the maturity of our borrowings, and add depth to the securitised mortgage market, which we are hoping to tap again," he said.

See Lex

First venture capital fund for Mexico

BY DAVID GARDNER IN MEXICO CITY

MEXICO'S FIRST venture capital fund, to be led by Banca Serfin, the third largest of the country's nationalised commercial banks, has just been launched, providing the increasingly sophisticated local capital market with a new instrument.

Inver-Pro, has been set up by Serfin in partnership with Banker's Trust, Grupo Nacional Provincial — Mexico's largest insurance company — Invermexico, a leading and listed stockbroker, and group of five Mexican regional banks.

Each of the five components in the consortium will own around a fifth of the shares, with Serfin heading the fund.

Legislation permitting venture capital funds was included in the legal overhaul of the financial system in 1984-85. This was intended to establish clear rules and demarcation lines after the private banks were expropriated in 1982 and their financial services companies, such as stockbrokers and insurance companies, were returned to private hands.

What appears to have delayed the start up of formal venture capital funds was their being limited to risk capital in new ventures. This has now been broadened to encompass new capital in existing companies.

The launch takes place when big US banks have been showing increased interest in such mechanisms as debt-equity swaps and venture capital investment as a means of improving their returns on Third World debt.

Some analysts of the Mexican market — where for example up to $1.8bn in debt swaps are expected to be completed this year — believe that Inver-Pro could be the beginning of a trend towards setting up strong consortiums with a wide range of financial expertise and good geographical spread.

Amersham just below forecasts with £22m

BY STEVEN BUTLER

Amersham International, the radioactive material maker, yesterday reported a 26 per cent rise in pre-tax profits to £22.1m in the year to the end of March, continuing a string of record profits since it was privatised in 1982. Turnover rose by 24 per cent to £148.5m.

The profits came in slightly below analysts' forecasts and its shares closed down 22p at 603p.

Attributable profits rose by just 9 per cent, reflecting a rise in tax payments in the UK and overseas, and increased payments for minority interests, as had been earlier anticipated by the company.

Earnings per share rose to 26.6p (24.5p), with a proposed final dividend of 5.40p (4.58p), bringing the total year dividend to 8.2p (7.0p).

The principle source of growth came in the medical products area, where sales advanced by 26.6 per cent to £62.8m, while profits rose from £2.49m to £6.55m.

Mr W. H. Ellaby, finance director, attributed the rise in part to currency movements. Medical products sales are more heavily concentrated in Europe and Japan, while the research and industrial products divisions are more heavily concentrated in North America. Other factors in the advance of medical products include the start of profitability of new pharmaceutical products, which had begun to show profits only in the previous year. Amersham was also able to realise the benefits of earlier research and development expenditures in non-radioactive detection — the Amerlite immunoassay system for medical diagnosis.

Mr Ellaby did not anticipate that growth in the current year would be so heavily skewed in favour of one product division. "We are looking for an advance across the board," he said yesterday.

Sales of research products expanded by 16.6 per cent to £58.50m, with profits climbing to £15.66m (£14.41m). Some 200 new or improved products were launched in the area, with ¾ in non-radioactive area where Amersham is placing greater emphasis.

In the industrial products divisions, sales were £27.19m (£21.37m), with profits declining to £5.32m (£5.44m). Turnover was spurred by the acquisition of Tech/Ops non-destructive testing.

Sales growth was somewhat sluggish in the UK and the Americas, while growth in the rest of Europe and other areas of the world, including Japan, expanded by 38 and 31 per cent respectively.

Amersham's heavy investment programme continued, with investment rising 18 per cent to £14.9m, or 10 per cent of sales. Capital expenditure rose by 60 per cent to £21.4m due to programmes to increase capacity for developments and production.

Mr Ellaby said that the current gearing ratio, at 36 per cent, was due to the high level of capital expenditures, and would come down over the next year as construction is completed. The company plans no rights issue, and there are no acquisitions currently anticipated, although the company is always looking.

See Lex

United News wins Extel

BY CLAY HARRIS

United Newspapers yesterday clinched its £250m takeover of Extel by winning the support of nearly 74 per cent of shares in the information and communication group.

The newspaper and magazine publisher succeeded without having to improve its original terms. Victory was achieved less than four weeks after United published its offer document.

Extel's final hope of reprieve disappeared yesterday morning when the proposed acquisition was cleared without a reference to the Monopolies and Mergers

With the bid being declared unconditional in all respects, United extended the cash element of its offer for another fortnight, to June 22. After gaining nearly 42 per cent by last Monday, United gave shareholders only another seven days to take the cash. This prompted Extel to throw in the towel.

Samuel Montagu, advising United, deliberately forced the pace in the bid. Institutional shareholders were told, in the words of Mr Rupert Faure Walker of Montagu, "if there wasn't a decent level of acceptances by the first closing date, we would walk away. That wasn't a bluff. We meant it."

After a 6p rise in United's share price, its share offer yesterday had recovered to to equal the 481p cash alternative for the first time since last Monday. Extel was unchanged at 473p.

OEM hit by rescue of customer

BY DAVID WALLER

Office and Electronic Machines, typewriter and office equipment distributor, has had to restate its results for 1986 after rescuing a major customer, Bollins Business Machines (Holdings) of Leeds.

Taxabe profits of £911,000 have been restated as losses of £439,000, after making a provision of £1.35m to cover bad debts and restructuring costs associated with BBM, acquired by OEM for a nominal sum last week.

OEM said that BBM, the principal distributor of its range of products in the north of England, had been acquired to protect its own interests and those of its customers.

"In the past fortnight, BBM experienced a considerable cash flow problem which could have resulted in liquidation," said Mr Norbert Paur, an OEM director. "Had we not bought the company, we would have lost a lot of stocks."

"We were controlling our credit on the basis of BBM's 1985-86 balance sheet, which showed a totally different state of affairs

The previously-proposed final dividend of 5.5p will now be paid as a second interim.

In a separate development, OEM announced that its directors had been in technical breach of the Companies Act as a result of transactions between OEM and Mr John Elmer, a board member. The company said no material profits had accrued to Mr Elmer or OEM, and full details will be given in the report and accounts for 1986, which will be posted to shareholders on June 16.

Stake raised in Guinness Peat

BY NIKKI TAIT

Equiticorp, the New Zealand company controlled and headed by Mr Allen Hawkins, has picked up a further 5.65m shares in Guinness Peat, the merchant bank. The additional holding—around 1.95 per cent of the bank's equity—takes Equitycorp's total stake in Guinness Peat to 28 per cent.

Equiticorp bought the bulk of its stake—24 per cent—from Friends Provident, the life assurance company, in early-April for a rumoured £75m.

Elsewhere, shares in Bridon, Doncaster-based engineering group, fell 16½p to 211p on news that Down Nominees, which represents bankers Henry Ansbacher and its clients, has cut its stake to 1.35m shares, or around 2.4 per cent. It previously held a 5.1 per cent stake. Down had been acting on behalf of Alixan Securities, which in turn represented Antipodean interests.

However, another Antipodean-controlled company, Charterhall, whose interests include oil, natural gas and mineral exploration, announced yesterday that it had acquired a 5.05 per cent stake in Bridport-Gundry, the netting manufacturer and retailer. The interest in these shares extends to Charterhall's parent company, Westmex.

Apricot in £14m bid for Wordplex

By David Thomas

Apricot, Birmingham-based computer manufacturer, yesterday launched a £14.1m bid for Wordplex Information Systems, loss-making office automation group, as it reported a return to profitability for the year to March 31 1987.

Pre-tax profits were £4.04m on sales of £71.16m compared with losses of £15.38m on sales of £90.56m in the previous year.

Wordplex last night rejected Apricot's offer. It said it would still be recommending the refinancing package organised last month by Octagon Industries, a management services concern specialising in information technology, at its extraordinary meeting on Monday.

Mr Roger Foster, Apricot chief executive, said the company believed Wordplex's maintenance operation, sales force and customer base would complement Apricot's.

Apricot would inject new products into Wordplex's range. It would review its overseas operations, selling or closing those which could not be returned rapidly to profitability, and would consider merging its manufacturing in Slough with Apricot's in Scotland.

Wordplex made pre-tax losses of £2.13m on sales of £46.94m last year.

Apricot is offering 13 shares for every 10 Wordplex. With Apricot closing at 106p, down 4p, that values the offer at £14.1m or 137.8p per share. There is a cash alternative of 130p. Wordplex closed up 8p at 138p.

To finance the offer, Apricot would invite its shareholders to subscribe for 7.5m new shares at 10p on the basis of 1 for 7.696. Shareholders would also be invited to buy up to 14.02m new shares at the underwritten price of 100p.

The total new shares would amount to 27 per cent of Apricot's enlarged share capital.

Mr John Heywood, Wordplex chairman, said Octagon was proposing an ideal strategy, which fitted Wordplex's existing strengths much more closely than Apricot's proposals. He added that Octagon's proposal would solve Wordplex's gearing problems and that Apricot's suggested price was inadequate.

Under the Octagon package, Wordplex would raise £3.6m through a placing and £5.7m in an 11-for-16 rights issue at 50p a share. It had also secured revised banking facilities including a £4m loan facility.

Mr Heywood dismissed suggestions that a statement yesterday by Chase Securities, which speaks for 20 per cent of Wordplex, in favour of Apricot made the issue a foregone conclusion.

In the year to March, Apricot reported profits after extraordinary items of £2.32m (loss of £14.91m). Earnings per share were 5.03p (losses of 20.83p).

Apricot was unable to pay a dividend because it has a negative balance in its profit and loss account.

Terry Povey on the expansion plans of Domino Printing

Seeking to add a few more spots

DOMINO PRINTING Sciences is spreading its wings.

The ink jet printing specialist is one of the successes of Cambridge Consultancy, the entrepreneurial engineering school often overshadowed by its better known but more accident prone electronic neighbours from the same City.

Yesterday Domino—the name comes fro mthe project title used during its days in the Consultancy incubator — spent £875,000 acquiring Mandergraph, a private company which has developed a high speed addressing system based on the Cambridge company's ink jet printers.

In addition Domino is developing a relationship with Elmjet, another Cambridge company, which employs ink jet printing in wall and floor coverings, and the fabric and packaging industries.

Domino's growth—sales are up twelvefold since 1982—was marked by a celebration just over a month ago when Mr Graeme Minto, its chairman, handed over the 5,000th printer to Lyons Tetley, the tea packing division of Allied-Lyons.

The nine-year-old Domino was clearly pleased to have a well satisfied 150-year-old customer.

"It has taken us nine years to reach our 5,000th printer but I am sure we will be celebrating the 10,000th in a lot less time than that," Mr Minto exclaimed to the company's assembled staff and workers.

If there is a secret to Domino's success it is that with the computer programmable ink jet printer it has found a solution to an age-old printing nightmare. It is easy enough to design ever faster machines that churn out the same thing over and over again but what happens if every article has to carry some specific information or data?

Spraying a precise film of ink through the nozzles of small jets, Domino's printers can match the speed of modern machinery, placing unique labels on a vast range of surfaces—any kind of drug container, motor spare parts, beer kegs or even the fragile skins of avocados. The Star newspaper relies on Domino machines to print the numbers for its bingo game.

Mr Graeme Minto (left), chairman of Domino, presenting an award to Mr Geoff Harding of Lyons Tetley, commemorating the sale of the 5,000th Macrojet ink jet printer

The majors in the printing industry have largely ignored ink jet, "thinking that the market for it was too small," claims Mr Alan Barrell, group managing director.

However, every decree on food and drugs out of the EEC generates ever greater demand for clear labelling, sell-by dates and batch numbering. And the idea of the most modern robotrunwarehouse being dependent on a human running around with a £250 roller coder is inevitably losing ground.

Consequently, "the market is much larger than anyone ever thought," says Mr Barrell. Domino does have competitors, AB Dick in the US with its Video jet and Wooljet Industries, a private UK company which is only just moving into the small print area.

Last year Domino lowered the price of its basic unit by £1,000 knocking about one-seventh off the price, at least partly to keep would-be challengers on their toes.

Domino began life in 1978 printing serial numbers on lottery ticket books. In the spring of 1981, the EEC ordered that all perishable goods should be labelled with "best before..." dates and the company was launched on to the serious growth track.

By 1983 it had entered a licencing agreement with American Technologies Inc, which had previously been distributing a rival product at home and in Europe. ATI and Domino pooled sales forces on this side of the Atlantic and the US company began selling the Cambridge company's printers in America.

This relationship has another plus for Domino—most of the inks used by Domino were developed by ATI and are now manufactured for it under licence in the UK.

Two years after the ATI deal, Domino was brought to the market by merchant bank Hill Samuel in a 200p offer of 5.5m shares, 42 per cent of the issued total.

Such was the demand for the shares that the offer closed 44 times subscribed. At flotation Domino was valued at £26m, compared with today's almost £80m.

The company's profit record has also been strong, up from £121,000 pre-tax in the year to November 1982 to £2.65m in 1985 and then on to £3.61m last year. Operating margins hit 25 per cent last year and the company boasts a 56 per cent return on shareholders funds.

The main target markets now lie outside the legislation induced compulsory labelling areas where companies see Domino's products as a necessary evil rather than a contribution to profits.

However, in the cosmetics, graphic arts and printing industries, ink jet has something to contribute — and these customers are less concerned at price and more worried about performance.

So whereas food packaging, dairy products, pharmaceuticals, brewing and soft drinks constituted 58 per cent of sales 1981-86, the general industrial and printing categories are the ones most likely to grow more rapidly over the next five years.

This is where Mandergraph fits in. With sales of £1.4m in 1986 (and a loss of £18,000) it has developed an addressing system which had already won major contracts — the Inland Revenue is its largest customer.

Domino believes it can couple Mandergraph's systems and mechanical handling technology to a wide range of applications.

From small beginnings, Domino has grown quickly and is now reaching out to put its finger in many ink jet pies both at home and abroad.

Gt Western leaps to $4m

BY LUCY KELLAWAY

Great Western Resources, the US energy group quoted on the London stock market yesterday announced pre-tax profits more than doubled to $4m from $1.7m for the six months to March. The figures were boosted by the inclusion for three months of the year of the company's recent Bow Valley and Kenai acquisitions.

Mr Daniel Penna, Great Western's chairman said yesterday that during the first half the company had taken a "major step towards its ultimate goal and has become a large, diversified natural resources company". He said that he was confident about the future, in which further acquisitions were planned, and was therefore proposing a 10 per cent increase in the interim dividend to 1.57p a share.

Turnover in the period increased from $10.4m to $37.9m, with a first time contribution of $24m from Bow Valley's coal operations. Provision for taxes was $1.9m, compared to $493,000, and net income was $2.1m against $1.2m.

As a result of the acquisitions, group asset value increased sharply, and by the end of March gross assets were $272.1m, while cash balances were $27.8m.

● comment

While the City still thinks of Great Western Resources as one of those unfortunate US oil stocks which made an overvalued debut on the London stock market a few years ago, the share price has recently been telling another story. A rise of more than 300 per cent so far this year shows that someone at least approves of Mr Pena's relentless ambitious expansion. Over the last two years he has gone for ever-bigger targets, broadening the spread of assets, and financing the deals with ever more complicated classes of preference shares—for which the Kuwait Investment Office has fortunately developed a voracious appetite. With the latest acquisition he has taken the company into coal, buying at what appeared to be a knock-down price large US coal assets. These results show merits of the deal, which has improved cash flow, and added to the stability of earnings through the long-term contracts under which the coal is sold. Although Pena is not likely to rest yet, the shares may, and yesterday's 4p fall to 201p shows that the market may need more information on this outcast stock before pushing the price up further.

COMPANY NEWS IN BRIEF

RANKS HOVIS McDougall: By 3 pm yesterday the company had received acceptances from holders of 25,569,101 Avana Group ordinary (90.8 per cent of shares for which the increased offer was made and 72.5 per cent of the issued ordinary share capital). Prior to announcement of offers on February 6, 1987 RHM had acquired 7.1m shares (10.2 per cent). RHM therefore now owns or has received acceptances in respect of a total of 32,669,101 ordinary Avana shares (92.8 per cent).

HODGSON HOLDINGS has agreed terms for the acquisition of John G. Ashton (Funeral Directors), of Altrincham, for £105,500 cash. For year to end June 1986 Ashton had a turnover of £143,000 with pre-tax losses of £3,000. Net tangible assets amounted to £111,000.

Wolseley pays £5.3m for Keith Johnson Photo.

Wolseley, the heating and plumbing merchant, yesterday agreed to require Keith Johnson Photographic, a distributor of professional photographic equipment and materials, for £5.33m.

The acquisition of Grovewood Securities from BAT Industries in March 1986 moved Wolseley into new areas and this purchase is part of a series of "in-filling" acquisitions. Wolseley already owns Promandis, a photographic equipment distributor.

In 1986, KJP made pre-tax profits of £351,000 on sales of £13.8m and its assets at the end of the year were valued at just over £1.5m.

Consideration will be in the form of 820,000 ordinary shares, 0.9 per cent of the existing equity, which will be placed on behalf of the vendors by Rowe & Pitman.

Fisher rights

Acceptances were received in respect of 94.89 per cent of the 54,753,532 new ordinary shares offered by way of rights in the Albert Fisher Group. The new shares not taken up have been sold by the underwriters at a net premium of 10p per new ordinary.

DIVIDENDS ANNOUNCED

	Current payment	Date of payment	Corres-ponding div	Total for year	Total last year
Amersham Intnl.	5.4	Aug 10	4.58	8.2	7
Electronic Rentals ...	2.07	July 30	2.07	3.23	3.23
Great Western ......int	1.57‖	—	1.43	—	2.86
Hardanger Props. ...int	4.74	July 3	3.55	—	11.36
Hazlewood Foods	1.2†	Oct 1	0.92*	2.2	1.6*
Northumbrian Foods...	0.56	—	—	0.56	—
Investment Co.	0.8	Sept 1	0.73	1.25	1.17
Millward Brown‡	1.75	—	1	3	1**
NMC Invests.	1	Oct 1	1	1.5†	1
Sanders & Sidney	0.5‡	July 10	—	0.5	—
Yellowhammer‡	1.5	—	1	2.1	1.6
York Mount‡	1	July 24	1	2	2

Dividends shown pence per share net except where otherwise stated. * Equivalent after allowing for scrip issue. † On capital increased by rights and/or acquisition issues. ‡ USM stock. § Unquoted stock. ¶ Third market. ‖ Gross. ** For five months.

UK COMPANY NEWS

Electronic Rentals 12% up despite Connect loss

BY DAVID WALLER

Electronic Rentals Group, the television rental and retail concern, yesterday announced taxable profits of £18.5m for the year to the end of March 1987, up 12 per cent, despite £5m losses at Connect, the recently-acquired electrical retail chain.

The results were at the top end of stockbrokers's forecasts and the shares rose 4p to close at 64p.

Mr David Hurley, managing director, conceded yesterday that the retail market for brown and white goods, which ERG had attempted to enter with its acquisition of Connect in October 1985, had been tougher, and more expensive than expected.

"The lead time to get turnover up t oal evel where it would have yielded a profit was too long," Mr Hurley said. ERG has subsequently sold many of the Connect stores to Wigfalls, the electrical retail and rental group, and merged some of the more profitabe branches with ERG's existing Visionhire outlets.

Troubles at Connect were largely behind the 17 per cent decline i noperating profits at the UK Consumer Electronics division. This made £17.5m, against £21.1m last year.

Mr Hurley said that performance from ERG's non-Connect retail business, included under this division, was encouraging. But he was not prepared to give a breakdown between this and the group's traditional rental business.

Profits from the Overseas Rental division increased to £6.8m (£6m). Business Systems and Communications increased from £100,000 in the previous year to £3.67m, reflecting acquisitions made during the year. Captive insurance companies contributed £1.58m, against £1.06m.

As a group, turnover rose 20 per cent to £306.71m. Depreciation increased to £76.94m (£72.18m). Borrowings fell from £108m to £84m, equivalent to shareholders' funds. Earnings per share rose from 3.6p to 3.7p. The board recommended an unchanged final dividend of 2.0655p, which is a maintained total for the year of 3.2322p.

The results arose after benefitting from a £3.1m reduction in the company's pension fund contributions.

Bank of Ireland in I£53.3m rights

By Hugh Carnegy in Dublin

Bank of Ireland yesterday announced a heavily discounted rights issue to raise I£53.3m (£32.51m) to back its plans to expand outside the depressed Irish home market.

The first of its type in Ireland, the issue is being made at a deep discount and is not being underwritten. Dublin dealers said it was likely to be greeted favourably.

It is being offered at 150p per one pound of capital stock on the basis of two pounds of new stock for each nine pounds held on May 29, 1987. Bank of Ireland shares closed last Friday in Dublin at 263p.

The bank, with Allied Irish Banks one of the big two Irish clearers, said it was too early to make a forecast for 1987/88, but it intended to maintain 1986/87 dividend rates on enlarged capital.

Last year's results, published last month, showed a 15.4 per cent rise in earnings per share to 31.5p and an almost 16 per cent rise in net profits to I£50.09m. The total dividend was 11p.

Just over 30 per cent of profits were earned outside Ireland, mainly in the UK where most expansion has taken place. Earnings this year are expected to be boosted by contributions from the UK mortgage arm of Bank of America acquired early this year and renamed Bank of Ireland Home Mortgages.

The bank wants to see overseas contributions to group profits rising to around the 50 per cent mark and is looking for further acquisitions in the UK and the US.

It said earnings in 1987-88 needed to rise by I£2.2m to I£53.3m to maintain last year's earnings per share as adjusted for the bonus element in the issue.

Dealings are expected to commence on June 11. The subscription price will be payable in full by July 1. The new stock will not rank for the 1986-87 final dividend due for payment on July 3.

Dale Electric chief 'over the moon' as Sunleigh bid fails

BY NIKKI TAIT

Dale Electric, the Yorkshire-based generator set manufacturer, has escaped the bid clutches of Sunleigh Electronics. By yesterday's final close, Sunleigh had either bought or attracted acceptances from holders of just 18.24 per cent of Dale's shares on behalf of its £16.8m offer.

But Mr Tony Merryweather, chairman of the ambitious revival stock, where FKI Electricals holds one-quarter of the shares and four former or current FKI men sit on the board, indicated that the company would not be abandoning the acquisition trail.

Sunleigh is "at an advanced stage of negotiation with a number of acquisitions," according to Mr Merryweather, with finalisation delayed by the Dale bid.

The possible purchases are all private businesses, and Mr Merryweather added yesterday that he was "hopeful of an early announcement."

Yesterday Mr Iain Dale, chief executive of Dale and son of the company's founder, said he was "delighted — over the moon" at news of the bid outcome. The backing of the bulk of the company's institutional holders, he added, was not "the short-termism of which we hear so much."

However, although both M & G and the Pru are believed to have backed the Dale defence, one major institution, Scottish Amicable, is thought to have accepted.

By the lunchtime close, Sunleigh had received acceptances from holders of 3.4 per cent of Dale's shares for its paper terms and from holders of another 6.3 per cent in respect of its cash alternative, which closed 11 days ago. Sunleigh itself amassed an 8.6 per cent holding in its target.

Dale, which is heavily dependent on export business, had tumbled into losses in 1985-86; during the course of the bid, however, it demonstrated a sharp recovery with forecast profits of £1.07m before tax in the year to May 1987. Sunleigh, which had promised a management revival, also took the unusual step of shutting off the cash alternative after six and a half weeks and the paper terms 10 days later.

Sunleigh shares fell 1½p to 38½p on the announcement; Dale lost 8p to 97p.

Yellowhammer advances 36%

BY STEVEN BUTLER

Yellowhammer, the advertising agency, increased pre-tax profits by 36 per cent to £1.67m in the year to the end of March. Turnover increased more rapidly, by 69 per cent, to £44.37m.

The growth was achieved organically, with the agency picking up new clients in the food and drinks sectors for the first time, while taking a large chunk of government business from the Central Office of Information.

Earnings per share rose to 9.7p (6.9p). A final dividend of 1.5p brings the year's total to 2.1p (1.6p).

Axle, formed last year as the group's public relations and publishing subsidiary, grew much faster than the management had anticipated and contributed about £100,000 to profits. A similar amount came from the typesetting subsidiary, Propeller.

"We're going to have a very successful year," said Mr Jon Summerill, chairman and managing director. "We are extremely ambitious."

Yellowhammer has leapfrogged up the ranks of UK advertising agencies, about 10 places to 33, according to a listing prepared by Campaign and Mr Summerill says the group aims at becoming one of the top UK agencies.

The rapid expansion has led to an internal restructuring of management. Mr Summerill will become the group's chief executive officer, while two joint managing directors are to be appointed.

One will be Mr David Grey, previously an account director, while a second managing director is to be brought in from another agency, with an announcement to be made later this week.

Barclays continues to account for over 25 per cent of the group's turnover, while the Central Office of Information accounts for over 20 per cent.

Company officials said they had overcome any lingering image problem that resulted from controversial advertisements for issued-oriented clients, such as Greenpeace, and that the company was now being taken seriously by mainstream clients who are interested in attention-grabbing advertising.

New clients include Whitworths and Whitebread, in the food and beverage sector, the Today newspaper, Manpower, and Swan Hellenic of the P&O group.

comment

Yellowhammer's hard-hitting controversial advertisements — the bloody posters against fur garments prepared for Greenpeace, or the current campaign for the Today newspaper—have earned it a reputation for creativity and a stack of advertising awards. While the agency continues to take some high-profile work for charities and children's societies, increasingly it is moving into the mainstream and would like nothing better than to turn its talents to a can of baked beans or a box of macaroni. However, now that it has made its first forays into the food and beverage mainstream it was perhaps inevitable that pre-tax margins would fall—from 4.7 per cent in 1986 to an industry norm of 3.8 per cent. This results both from sizeable government work loads and its shift into more television advertising. If pre-tax profits rise to £2.1m, as many analysts expect, the projected p/e of 12.8 would make the shares a bargain. One just hopes that Barclays, with its huge slice of Yellowhammer's business, stays with the new management team to see if the agency can make it in the big time.

Electrolux to pay £42m in deal with Thorn EMI

BY KEVIN DONE, NORDIC CORRESPONDENT, IN STOCKHOLM

Electrolux of Sweden, the world's leading household appliances manufacturer, has finalised the takeover of the troubled white goods and commercial appliances divisions of Thorn EMI of the UK.

Electrolux said that it is to pay £42m for the acquisition, rather less than was indicated when the deal was first announced in April.

The purchase price is based on a discount of the net assets value of around £70m and includes a repayment of some £30m of debt.

The Thorn EMI white goods operations have annual sales of some £185m, while the food equipment division has sales of £40m. The operations have a total workforce of some 5,700.

The acquisition will make Electrolux the market leader in the UK with a share of some 20-25 per cent. The Swedish group has already warned that the Thorn EMI operations will require rationalisation despite previous job cuts.

The major attraction of the deal for Electrolux is to add a UK manufacturing base for cookery, a sector where it has previously had barely any presence in the British market.

Tie Rack in demand

A large knot of investors queued in the rain yesterday to apply for shares in Tie Rack, the retail group, before the offer closed this morning.

Samuel Montagu, the merchant bank handling the issue, reported that so many application forms had been collared by investors that extra had to be printed.

HANSON OVERSEAS FINANCE B.V.

NOTICE TO THE HOLDERS

of the 9½% Convertible
Guaranteed Bonds Due 1996 ("the Bonds") of
Hanson Overseas Finance B.V ("the Company")

GUARANTEED BY

and convertible into Ordinary Shares of
Hanson Trust PLC

AND

constituted by a First Supplemental Trust Deed dated April 30, 1981, being supplemental to a Trust Deed dated October 9, 1980 (collectively "the Trust Deed")

Redemption on November 14, 1986

The attention of holders of the Bonds is drawn to the Notice of Redemption published in the Financial Times on September 26, 1986, advising holders that it was the Company's intention to redeem all outstanding Bonds on November 14, 1986 ("the Redemption Date").

As Trustee for the Bondholders, The Law Debenture Corporation plc exercised its power under the terms of the Trust Deed to convert, on behalf of Bondholders, all Bonds not previously converted at the conversion rate applicable on the Redemption Date and arranged for the sale for the benefit of Bondholders entitled thereto of all Shares arising for such conversion.

Bondholders who have not yet presented their Bonds and received their entitlement to the proceeds of such sale (amounting to US$4,559.126 per US$1,000 Bond) are reminded that they may do so at any of the Paying and Conversion Agents' offices listed below. All Bonds so presented should be accompanied by all unmatured Coupons.

Principal Paying and Conversion Agent
Chemical Bank, 180 Strand, London WC2R 1HT

Paying and Conversion Agents
Kredietbank S.A., Arewbergstraat 7, 1000 Brussels, Belgium
Chemical Bank, Ulmenstrasse 30, 6000 Frankfurt am main
Bank Internationale a Luxembourg S.A.,
2, Boulevard Royal, Luxembourg.

Chemical Bank
Freigutstrasse 16
8039 Zurich

Chemical Bank
55 Water Street
New York, N.Y. 10041

T. Cowie expands fleet with £1.9m acquisition

BY CLAY HARRIS

T. Cowie, the Sunderland-based motor group, yesterday consolidated its position as Britain's second largest vehicle leasing operator with the agreement to pay £1.9m for assets owned by Tameside Vehicle Rental.

The acquisition will increase Cowie's fleet to 26,000 vehicles, where it lags behind only Dial Contract, the Barclays subsidiary.

Interleasing, the Cowie subsidiary, is buying commercial vehicles, associated equipment and stock, a freehold depot in Birmingham and leasehold facilities in Wolverhampton, Bristol and Cheltenham.

The assets in question produced three-month profits of £68,000, Cowie said.

The company also announced four board changes which Mr Tom Cowie, chairman and chief executive, said reflected the rapid expansion of the business. His son, Andrew, is to become joint managing director and Mr Gordon Hodgson, finance director has been named deputy chairman.

The elder Cowie emphasised that he was not preparing to step down.

Also joining the board are Mr Ian Jane, who will have responsibility for Cowie's 13 motor dealerships, and Mr Neil Pykett, who will develop the contract hire business.

Investment Co.

Revenue of The Investment Company advanced from £752,376 to £875,715 pre-tax over the year to end-March 1987. Profits on changes of investments totalled £165,411 compared with a previous £590,042.

Tax took £273,333 (£359,253) and earnings worked through at 4.5p (3.87p) per 25p share. A final dividend of 0.8p raises the total from 1.17p to 1.25p.

Hardanger Props. profits surge 46% to £1.75m

Hardanger Properties, the land developer and building group, yesterday announced a 46 per cent improvement from £1.2m to £1.75m in pre-tax profits in the six months ended March 31 1987 on turnover up 54 per cent to £7.37m, against £4.78m.

The directors said that early in April the acquisition of Broadly Brothers was completed, further increasing the company's asset base. They were negotiating for a number of major acquisitions and hoped to be able to conclude significant purchases during the coming months.

Tax amounted to £612,000 (£480,000), leaving attributable profits of £1.14m (£721,000) for earnings of 15.27p (10.78p) per 10p share.

The interim dividend is raised from 3.55p to 4.74p and the directors hoped to recommend a higher increase when the full-year results were known.

Western Motor

Western Motor Holdings, the car-delivery contractor, is preparing to announce a further move into the motor distribution business. It asked for its shares to be suspended yesterday at 345p, where its market value exceeds £8.3m.

Samuel Montagu, the merchant bank, holds a 29.4 per cent equity stake in Western as part of a management buy-in and capital reconstruction it arranged early this year. The value of Montagu's holding has increased by more than 50 per cent in three months, from £1.6m to over £2.4m.

Millward Brown

Millward Brown, USM-quoted market research agency, yesterday turned in pre-tax profits of £1.24m for the 12 months ended March 31 1987. This compared with £187,000 for the five months to the end of March 1986.

The final dividend is 1.75p for a total of 3p (1p for five months). Earnings per 10p share were 13.5p, against 1.8p.

Turnover for the year was £10.65m, compared with £2.71m in the previous five months.

ANGLOVAAL GROUP

DECLARATION OF ORDINARY AND PARTICIPATING PREFERENCE DIVIDENDS— YEAR ENDING 30 JUNE 1987

Dividends have been declared payable to holders of ordinary and participating preference shares registered in the books of the undermentioned companies at the close of business on 26 June 1987. The dividends have been declared in the currency of the Republic of South Africa. Payments from London will be made in United Kingdom currency and the date for determining the rate of exchange at which the currency of the Republic will be converted into United Kingdom currency will be 6 July 1987, or such other date as set out in the conditions subject to which the dividends are paid. These conditions can be inspected at the registered office or office of the London Secretaries of the companies. Warrants in payment of the dividends will be posted on or about 31 July 1987. The transfer books and registers of members of the companies will be closed from 27 June to 3 July 1987, both days inclusive. All companies mentioned are incorporated in the Republic of South Africa.

Name of company (Ordinary shares, unless indicated otherwise)	Dividend declared No.	Cents per share June 1987	Cents per share June 1986	Total for financial year Cents per share 1987	Total for financial year Cents per share 1986	Consolidated profit Estimated* 1987 R000	Consolidated profit Actual* 1986 R000	Amount absorbed by dividends* 1987 R000	Amount absorbed by dividends* 1986 R000
Investment Companies									
Anglovaal Limited Reg No 05/04580/06						127 585	92 387	25 833	19 936
Participating preference (Note 1)	66	200	170	302.5	236				
Ordinary and "A" ordinary	63	390	330	585	460				
Middle Witwatersrand (Western Areas) Limited Reg No 05/04469/06	70	100	100	180	165	32 972	32 520	15 579	15 096
Zandpan Gold Mining Company Limited Reg No 65/02414/06	30	13.5	11	23.5	18.5	30 558	24 180	30 588	24 088

* Consolidated profit figures are after taxation, outside shareholders' interests and preference dividends but before extraordinary items, and amount absorbed by dividends includes preference dividends.

Notes

1. This declaration represents 5 cents in respect of the fixed rate of 5 per cent per annum for the half-year ending 30 June 1987 and 195 cents, being a 50 per cent participation in the final dividend of 390 cents declared on the ordinary and 'A' ordinary shares.

By order of the boards
Anglovaal Limited
Secretaries
per: E. G. D. Gordon

London Secretaries
Anglo-Transvaal Trustees Limited
295 Regent Street
London W1R 8ST

Registered Office
Anglovaal House
56 Main Street
2001 Johannesburg

8 June 1987

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether the dividends are interims or finals and the sub-divisions shown below are based mainly on last year's timetable.

TODAY

Interims — Appletree, Bradstock, Greenwich Resources, McLeod Russel, Nash Industries, Plaxtons (GB), Whewsy.

Finals—Atkins Brothers (Hosiery), British Benzol, N. Brown, Continuous Stationery, Deelkraal Gold Mining, Doornfontein Gold Mining, Driefontein Consolidated, Electra Investment Trust, Kloof Gold Mining, Libanon Gold Mining, Thomas Locker, London and Overseas Freighters, Metal Box, New Throgmorton Trust (1983), Regalian Properties, Rowlinson Securities, Unigate, Venterspost Gold Mining, Vlakfontein Gold Mining.

FUTURE DATES

Interims—

Lookers	June 17
Microgen	July 2

Finals—

Amber Industrial	June 11
Anglo United	June 17
Argyll Group	June 25
BET	June 18
Barbour Index	July 21
Caledonia Investments	June 11
Craig and Rose	June 12
Latham (James)	June 25
Mountview Estates	July 17
Sterling Industries	June 11

UK COMPANY NEWS

NMC at £4.2m and set for further expansion

THE VASTLY restructured NMC Investments has shown profits before tax of £4.21m from turnover of £27m for the year ended March 31 1987.

That, said Mr Norman Gordon, chief executive, marked the first step in transforming NMC into a major specialist packaging group.

"We have achieved our growth with a series of acquisitions and through strong organic growth within those companies."

Mr Gordon, along with the advertising Saatchi brothers (Charles and Maurice) acquired a controlling interest in NMC in March 1986, and the restructuring began—the Saatchi's, however, did not join the board.

Since then capital issued in respect of acquisitions has cut Mr Gordon's interest from the original 20 per cent to around 9 per cent and the Saatchi's combined holding from 30 per cent to some 19 per cent.

During the year the company acquired Interploy, Bux and the Barker Group. Taking those in on a merger accounting basis, the profit for 1985-86 was £2.5m and the turnover £23.6m. The reported figures for NMC for that year were £167,000 and £3.53m respectively.

Mr Gordon said the overall strategy was to continue the development of existing subsidiaries and to seek acquisitions which would bring good margins and increase earnings per share. A fortnight ago the company announced that it was buying A.J. Bingley, a privately-owned flexible packager, for £2.86m in shares.

As to the current year Mr Gordon said he looked for further success. It was intended to consolidate the success of the past year and take further significant steps to build NMC into a major group operating in the higher value added sector of the packaging industry.

Earnings for the year were 7.47p (5.92p adjusted) and the final dividend is 1p for a net total of 1.5p on capital increased by the acquisition issues. The cost is £493,000 (1p absorbing £86,000).

● comment

After years of packaging everything from British Airways to the Conservative party, it is hardly surprising that the news of a Saatchi brothers stake in the packaging industry itself should cause the chosen company's shares to skyrocket. NMC's ordinary duly closed yesterday at 209p rather than the 11.5p they touched in October 1985, before the Saatchi's first intervention. As yet, NMC's progress is still in its early stage but its analysis of the industry seems sound—it believes that growth is to be founded in the low-volume, high margin products rather than in bulk goods. For the current year, volume growth at Interpoly and Barker and improved margins at Bux and Bingley should push pre-tax profits up to £5.3m. However, the prospective p/e of 22 is anticipating the benefits of future deals rather than the expansion of existing businesses. Investors can afford to wait and see.

Emess to sell arm of Tenby for £17m

BY CLAY HARRIS

Emess Lighting is to sell Fraser & Glass, manufacturer of moulded plastic components for the motor industry, for £17m in cash to Serling Engineered Products, a subsidiary of Trinova, the US fluid power and plastics group.

Trinova, formerly Libbey-Owens-Ford, has paid handsomely—more than 40 times last year's earnings—for its beach-head in the British and European motor component industries.

It described the purchase yesterday as a "strategic acquisition" which was fully supported by its cash-flow analysis.

Emess, which specialises in domestic and commercial lighting, took control of Fraser only four months ago when it bought Tenby Industries from BSR for £42m.

Although Emess promised at the time not to sell any of Tenby for at least a year Mr Michael Meyer, chairman, said yesterday: "Some very nice Americans came along and made us an offer we couldn't refuse."

The disposal has the full support of Fraser management and staff, Mr Meyer said. Emess was explaining to other parties involved in the Tenby deal the reasons for its change of mind.

Automotive plastics accounted for about half of Sterling's sales of $327.5m (£200m) last year. Although it supplies the leading US and Japanese manufacturers in its domestic market, Sterling has never before ventured overseas.

Emess will continue to review the future of Tenby's other two engineering divisions. Its shares added 12p to 446p yesterday.

Fraser's products include bumpers, wheel trims and under-the-bonnet plastic parts. Based in Brierley Hill in the west Midlands, it has recently won supply contracts for Nissan in north-east Engand and Ford in West Germany to add to existing customers including Honda, Rover and Jaguar.

It contributed pre-tax profits of £636,000 on turnover of £8.6m in 1986. It is on course for sales of £12m this year, according to Mr Meyer. It had net tangible assets of £4.3m at the end of 1986.

Major sale by Eadie Holdings

BY JAMES BUXTON, SCOTTISH CORRESPONDENT

Eadie Holdings has sold its textile machine accessories subsidiary Eadie Bros. to the Japanese concern Kanai Juyo Kogyo for £2.35m cash.

Eadie Bros., which is Britain's leading producer of rings and travellers used in yarn spinning, accounted for £4m of the Eadie Group's turnover of £8.7m in 1986.

Eadie Holdings, which came to the USM last year, now intends to concentrate on its specialist wire division and is to move its headquarters from Paisley to Manchester. The sale of Eadie Bros. has enabled the group to eliminate its borrowing and leave a cash balance of more than £2m.

Yesterday Eadie Holdings also announced the acquisition of Annic Engineering, the holding company of Astraflex of Ware (Hertfordshire) which makes and distributes wire-braided fluorcarbon flexible piping. The purchase price of £825,000 is to be met by a share issue.

Eadie Bros has about 90 per cent of the UK market for rings and travellers and obtains some three-quarters of its sales revenues from overseas. Kanai claims 20 per cent of the world market for these products, and believes that with Eadie Bros it will have 25 per cent.

Mr Paul Eadie, who is to be chairman and chief executive of Eadie under Kanai's ownership, said the deal would enable the company to increase its range of products. The Japanese company has given assurances on the future of the 94-strong workforce.

Mr Gary Smith, managing director of Eadie Holdings, said it did not wish to make the substantial investment with the long pay-back time that Eadie Bros. would require.

Riley talks terminated

BY CLAY HARRIS

Riley Leisure yesterday decided at last that Midsummer Leisure's £16.4m takeover bid really was the only game in town. Riley makes snooker tables and is Britain's largest operator of snooker clubs.

Mr Alan Deal, chairman, confirmed that Riley had ended talks with Charlwood Leisure, privately owned operator of 24 snooker clubs. Charlwood's terms for the proposed purchase by Riley of its assets and management had proved too high, Mr Deal said.

The Riley board, with the exception of one non-executive director, had reluctantly recommended the Midsummer offer before the Charlwood initiative emerged. By winning the support of Riley's preference shares last week, the pub and disco operator speaks for 21 per cent of its shares.

With Midsummer shares 9p lower at 416p, its share offer values Riley at 96p, against the market price of 92p, down 2½p. There is a cash alternative of 82½p.

At these prices, Charlwood faces a loss on its purchase last week of a 1.9 per cent stake at an averag cost of more than 97p.

SHARE STAKES

Acatos & Hutcheson—Director J. Weir disposed of 30,000 ordinary at 433p and now holds 449,819.

Addison Consultancy Group—On June 2 the following directors sold ordinary at 156p: M. Page 700,000; S. Smith 700,000; J. Broad 300,000; I. McQuattie 60,000.

Bejam Group—Chairman J. D. Apthorp sold 200,000 ordinary at 206.5p.

Carlton Communications—Directors M. P. Green and J. H. Beedle have disposed of 700,000 and 300,000 ordinary respectively at £13.85.

Central Independent TV—Director C. J. Baty sold 30,000 shares.

Cluff Oil Holdings—Director J. G. Cluff purchased 15,000 ordinary at 39p.

Flogas—Executive director T. Clearly sold 50,000 ordinary at 320p.

Grand Metropolitan—Chairman Sir Stanley Grinstead sold 22,000 ordinary at 550p.

Macro 4—Mr J. Chapman disposed of 140,000 ordinary shares. He remains interested in 1,233,700 shares (5.7 per cent).

Marley—P. H. Aldridge disposed of 24,500 beneficial ordinary at 165p and 500 non-beneficial ordinary at 165p.

Microfilm Reprographics — S. H. Cordier and M. J. Booth exercised options in respect of 100,000 ordinary placed at 535p.

Polymark International — Director L. O'Rice sold 30,000 ordinary and purchased 7,500 preferred "A" shares.

Raine Industries—E. Stanger has sold 2m ordinary, reducing his beneficial holding to below a notifiable interest.

Nurdin gives warning

Shareholders in Nurdin and Peacock the cash and carry wholesaler, were warned yesterday that the first half profit was likely to be below the £4.8m pre-tax of the comparable period in 1986.

Mr Michael Peacock, chairman, said the two contributory factors were the absence of duty increases in the Budget, after heavy stocking up in the expectation of a rise, and the timing of new branch openings.

Last year included an opening at Wolverhampton, whereas this year's activity would not start until next month with the opening of Paignton branch.

Sales so far had risen by 9 per cent but fell short of the 17 per cent recorded at the same time in 1986.

● Shareholders in Inchcape were told the company faced the future with confidence and expected a continuing improvement in performance.

Northumbrian Foods ahead of forecast

Northumbrian Fine Foods yesterday reported a 52 per cent rise in pre-tax profits for 1986-87 and at the same time said it was expanding in the health food market via two acquisitions for a little over £1m.

During the first few months of 1987 the directors have been strengthening the management of NFF's core company, Shaw Biscuits, and have appointed a new general manager, quality control manager and product development manager.

The year to March 31 saw turnover improve from £3.1m to £3.42m and profits advance from £350,000 to £532,000 at the pre-tax level—the company came to the USM last December forecasting profits of not less than £450,000. Earnings per 60p share improved to 5.72p (3.25p).

Shareholders are to receive the promised 0.56p dividend. Had the shares been traded for a full year a total of 1.7p would have been paid on the basis of the forecast figure.

The larger of the two acquisitions is that of Sunwell Foods, maker and distributor of muesli, cold pressed oil, sugar-free spreads under the Sunwheel label and carob snackbars under the Kalibu label. Sunwheel has an annual turnover of around £2m. Consideration is expected to be £1m.

£158,000 cash for the chattels

The company is also paying and some £25,000 for the packaging stock of Shildon Foods, maker of flapjacks under private label and also under its own Millford label. Shildon has a turnover of some £500,000.

The directors said that with the acquisitions NFF was progressing towards its ambition of becoming a major manufacturer in the health food industry. It was also looking for top quality food company's not in the health-food field.

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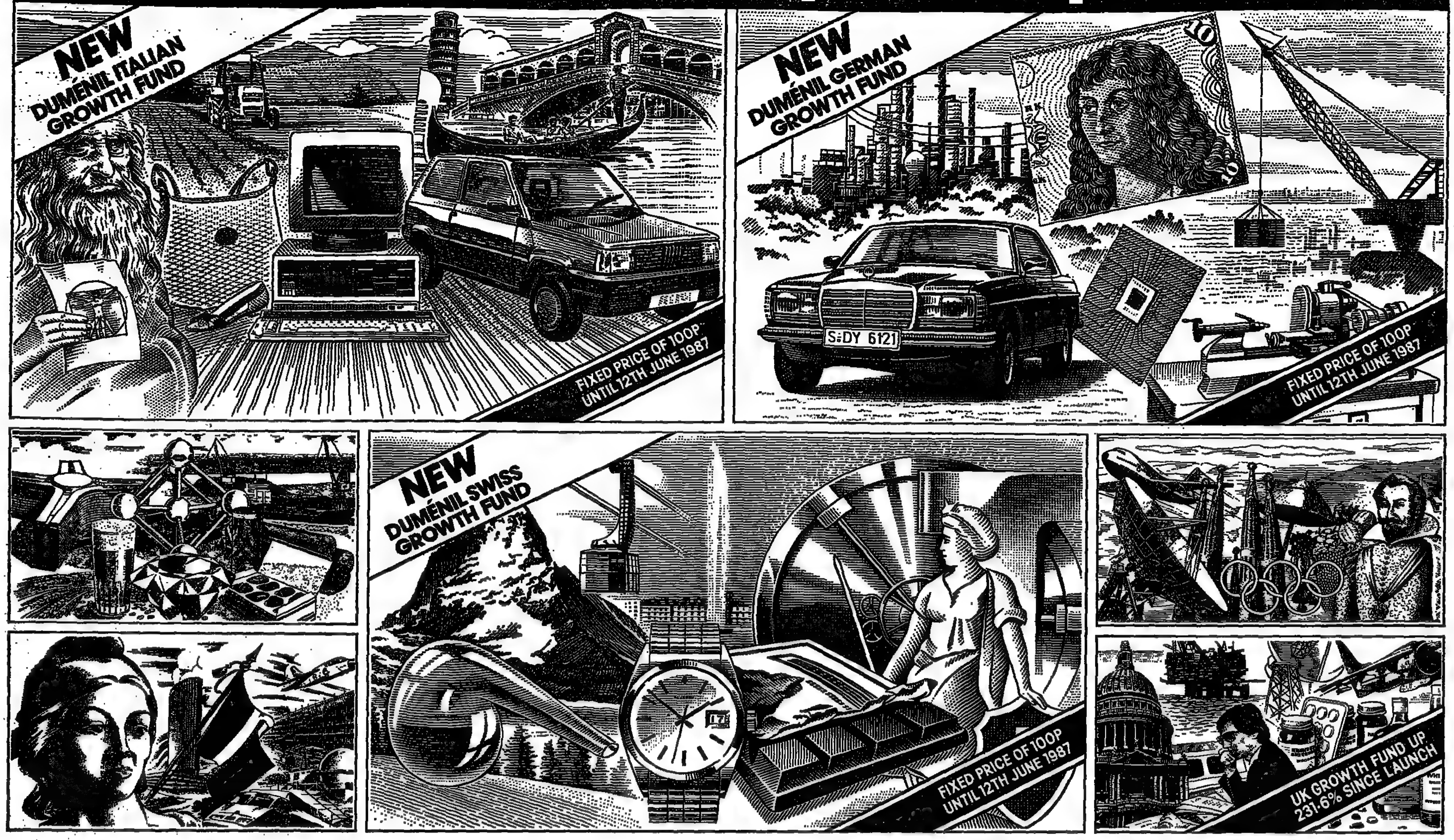

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The industrial excellence and technological skills of Germany need little introduction. *This is one of the world's three leading economies,* and the Deutsche Mark is an important reserve currency. In spite of the Deutsche Mark's strength, Germany continues to enjoy vast export markets–US$ 300 billion in 1986–*and a healthy domestic economy.*

Time to Buy *The German Stockmarket has been unselectively sold on* exaggerated fears of the effects on exports of the high Deutsche Mark and is now, we believe, substantially undervalued. It lists many world-leading *companies that should feature in any well-balanced portfolio and their attractions,* at current levels, are fast becoming evident to the large institutional investors of the USA and Japan.

The Fund Duménil German Growth Fund is a UK authorised unit trust aiming for maximum capital growth through careful research and active investment *principally on the Frankfurt Stock Exchange.*

The Fund will be advised by one of Germany's leading and longest established private banks, George Hauck & Sohn in Frankfurt, and managed *by Duménil Unit Trust Management Limited in London.*

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Investment Opportunities Switzerland offers a useful combination of strong, defensive investment (such as banking) with excellent individual investment *opportunities–in particular, the increasing number of high quality* companies seeking new listings. Another potential source of growth for UK investors is, of course, the continuing strength of the Swiss Franc.

The Fund Duménil Swiss Growth Fund is a UK authorised unit trust aiming for maximum capital growth through selective and active investment in the Swiss Stockmarkets. The fund will be managed by Duménil Unit Trust Management Limited in London. Advisers to the fund are Pictet & Co. in Geneva, one of the world's leading private banks, established in 1805, who manage assets of £12 billion and are widely respected in Switzerland and abroad for the quality of their research and analysis.

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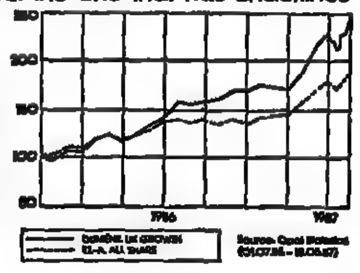

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UK COMPANY NEWS

Acquisitions help lift Hazlewood to £18.6m

Boosted by acquisitions, **Hazlewood Foods** announced a 68 per cent advance into a record £18.65m (£11.11m) in pre-tax profits for the year to March 31 1987.

The improvement also reflected organic growth with the base business achieving a 34 per cent increase in profits.

Mr John Lowe, chairman, said that following successful initial investments in Kanes Food Products and Crispa Produce in the salad produce sector, and Bard Brothers in the confectionery and snacks sector, Hazlewood had identified both sectors as offering substantial potential for innovation and long-term profit improvement.

The company had secured its base in the salad produce sector by extensive capital expenditure and rationalisation in the Crispa Produce and Kanes Food Products operations. This had resulted in a quantum upgrading of the production facilities and provided a platform for both long and short term organic expansion of those businesses.

The acquisition of Ken Perrett (Evesham) and Van Heyningen Brothers had added to that base. Mr Lowe said those investments and acquisitions had resulted in the group becoming the largest controlled atmosphere horticulturalists in Europe.

The entry into the confectionery and snacks market exposed a significant potential for a high turnover in specialist niche areas of that major market. During the year six companies had joined the group to add to its base and at the beginning of the current year Dragees aus Weseke, a West German specialist chocolate manufacturer, was acquired. The integration of those companies and the enlargement of their produce range would provide a sound base for the future.

Mr Lowe concluded that over the past five years the group had created a product range second to none in the UK. He was confident that this would provide the platform for sustained organic growth well into the 1990s.

Turnover last year rose 54 per cent to £189.2m (£123.1m); deducting cost of sales £133.1m (£91.8m), the gross profit emerged at £56.04m (£31.32m). Distribution costs amounted to £18.19m (£9.59m) and administrative expenses to £16.8m (£8.83m) leaving trading profits of £21.05m (£12.9m). Interest charged was £2.4m (£1.79m).

Tax took £4.75m (£2.35m), minorities £329,000 (nil) and extraordinary items were £1.19m (£752,000). Earnings per share were 32 per cent higher at 9.86p (7.45p).

The dividend is raised from 1.6p to 2.2p with a final of 1.2p per 10p share.

● comment

The Hazlewood recipe is by now well known to the market—start with a base of pickles, stir in chilled and frozen foods, salad produce and a few snacks, add a healthy portion of financial controls and spice the mixture with options and earn-outs for the management of the acquired companies. The result is extremely palatable as witnessed by these figures, which were around a million above the market's estimates, although election jitters held the shares to a rise of just 4p to 250p. There seems no reason why the pace of expansion should slacken; Hazlewood still has some way to go before its market cap catches up with Hillsdown and its market share in areas like snack foods is still quite small. Assuming pre-tax profits of £27m this year, the prospective p/e of 19 looks pretty fearsome but investors' appetite for the shares is unlikely to be sated for some time.

Sanders and Sidney tops its profit forecast

Sanders and Sidney has turned in pre-tax profits of £581,000 for the year ended March 31 1987. This compared with a minimum £550,000 forecast and with a restated £213,000 for the previous year.

The company was floated on the USM in February at 100p per share; yesterday the shares gained 5p to 160p. The company offers a counselling service to executives who lose their jobs with client organisations and helps them find new positions.

Mr Deryck Sidney, executive chairman, said he was confident that in an expanding market the company would continue to "enjoy considerable growth."

The first regional office had been set up, in Glasgow. An agreement had been signed with a Finnish consultancy under which the company would provide advice and services to assist in establishing outplacement in Finland. And other developments were being considered.

Turnover in the yeer came to £1.57m (£895,000). After tax £208,000 (£80,000) earnings worked through at 9p (3.2p) and the final dividend is the promised 0.5p net.

Eagle Trust £29m rights and acquisition

BY NIKKI TAIT

WITH INK barely dry on last March's three-way merger between **Eagle Trust** (formerly the ill-fated Audiotronic Holdings), the quoted **Mitchell Somers** engineering group, and the Rule 535.2-traded **Midland City Partnership**, the combined company yesterday announced a £28.6m rights issue, together with its first purchase — a private Nottingham-based builders merchant.

Eagle is raising the money via a two-for-five issue at 20p a share. The cash call will involve the issue of up to 151m Eagle shares, representing about 37 per cent of the existing issued capital. Directors, who hold over 12 per cent of Eagle's shares, say they plan to take up their rights.

Yesterday, Eagle shares eased ½p to 23½p.

Eagle is using £7.645m of the rights money — together with the issue of the further 11m shares — to fund the purchase of Pavis Group, a 30-year-old merchanting business which supplies domestic plumbing and heating products. Mr John Ferriday, chief executive, says that the Nottingham-based company, together with its management team, will strengthen Eagle's predominant distribution division which (including electrical distribution) currently accounts for around three-quarters of its business.

The plumbing and heating distribution side will now have 15 branches—three added by Pavis—and founder Mr Derek Pavis will become its managing director. In the year to end-April 1986, Pavis made pre-tax profits of £792,000 on sales of £17.4m. However, Mr Ferriday says that £1.5m has been warranted for the current year — though this increase partially reflects the company's switch from private status, lower pension provisions and the like.

At end-April, Pavis's net assets were put at £4m, of which £1.5m is said to be in cash. Pavis's vendors will be selling their rights on the 11m shares.

The remainder of the rights issue money will go to reduce borrowings and provide working capital in the short-term. However, Eagle says that other acquisitions are planned—with certain quoted companies in its sights—and the cash will give added flexibility. Expansion plans cover both manufacturing and distribution, though any additions to the former will tend to concentrate on products which can be supplied to the builders merchanting and electrical distribution business. If all plans come to fruition, Mr Ferriday expects the distribution side to account for about 80 per cent of Eagle's businesses.

Purchase boosts York Mount to £976,000

By Janice Warman

THE GROWING rent and contract hire market boosted new subsidiary's results and helped **York Mount Group**, the USM-quoted construction, property and printing group to swell its 1986 pre-tax profits from £176,000 to £976,000.

Turnover rose by 59 per cent to £4.07m and earnings per share lifted from 2.8p to 4.61p.

York Mount acquired CSL Truck and Trailer Hire on December 31 and incorporated its results for the previous 15 months to bring its October year-end into line with the parent group.

Mr Neil Balfour, the chairman appointed in August 1986, said the board's future policy was to extend the group's range of businesses and earnings both organically and by acquisition.

"We have converted the group from a small property business with weak earnings into a holding company. I hope to build it further; we are looking at other possible acquisitions and we have a much sounder base to build on than we had last year."

Meggitt

Meggitt Holdings, the aerospace and engineering group, yesterday announced agreement to acquire for £13m BAJ Holdings, the defence and aerospace company that was subject to a management buyout from Vickers in 1985.

The purchase is to be satisfied by issue to BAJ management and institutional investors of 7.14m new ordinary shares of Meggitt. Some 3.51m of the new shares are to be placed with institutional shareholders in Meggitt at 158p each.

Control Securities

Control Securities, the property investment and dealing group headed by Mr Nazdu Virani, is to acquire six properties from the Mountleigh Group for £8.75m, to be met by the issue of 19.44m shares at 45p.

Mountleigh will retain 9.44m shares, some 8 per cent of the enlarged capital, and the balance will be placed with the clients of stockbroker Fiske & Co.

Westwood

Westwood Dawes, the troubled mechanical handling engineering company, is to seek an adjournment of the June 10 extraordinary general meeting until June 17.

This will give shareholders more time to consider the terms of a rights issue in connection with the proposed acquisition of Hugh J. O'Neill, which is wholly owned by Mining & Allied Investments of Jersey.

After the adjournment of the June 1 meeting to approve the acquisition and rights issue, Mining and Allied has agreed to give Westwood shareholders the opportunity to purchase 3.5m of the 7m new ordinary shares to be issued to M&A

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COUPON DEBENTURES OF $1,000 PRINCIPAL AMOUNT

M 4	505	1003	1542	1987	4914	5405	5822	6382	6842	7480	7864	8464	8932	9377	9929	10412	10841	11440	11987	12436	12930	13423	13909	14438	14941	15451	16041	16511	17034	17491	17975	18482	18941	19499	20022	20534	21010	21520	22001	22475	22969	23458	23984	24534
7	509	1008	1544	2001	4915	5406	5832	6391	6847	7481	7865	8481	8942	9378	9931	10419	10842	11441	11948	12441	12927	13435	13907	14439	14948	15453	16043	16514	17035	17492	17976	18434	18942	19506	20023	20529	21013	21521	22004	22477	22971	23459	23958	24529
8	510	1009	1551	2004	4916	5407	5833	6394	6949	7483	7868	8482	8940	9380	9935	10421	10846	11442	11973	12444	12928	13436	13910	14440	14953	15457	16047	16515	17037	17493	17978	18441	18948	19508	20024	20533	21017	21522	22005	22479	22980	23460	23959	24533
9	511	1010	1553	2006	4919	5408	5837	6390	6952	7483	7880	8488	8949	9385	9937	10422	10847	11443	11974	12448	12939	13437	13914	14441	14954	15460	16048	16516	17038	17494	17979	18442	18948	19509	20026	20536	21026	21523	22006	22480	22981	23464	23961	24534
10	512	1014	1556	2009	4921	5409	5839	6409	6953	7484	7984	8464	8953	9389	9941	10423	10849	11444	11979	12453	12940	13438	13915	14442	14958	15461	16050	16517	17039	17495	17980	18448	18949	19510	20027	20538	21028	21525	22007	22483	22982	23465	23962	24535
11	513	1017	1557	2010	4922	5410	5840	6410	6956	7489	7968	8485	8958	9390	9942	10425	10856	11451	11980	12454	12944	13439	13920	14446	14959	15465	16058	16527	17042	17496	17981	18453	18952	19513	20030	20539	21027	21527	22008	22485	22986	23468	23967	24536
15	514	1030	1558	2021	4923	5411	5841	6418	6960	7486	7970	8487	8956	9393	9943	10427	10863	11456	11981	12459	12945	13445	13924	14451	14960	15467	16059	16538	17043	17505	17982	18454	18957	19513	20031	20540	21030	21531	22009	22491	22988	23469	23971	24544
[illegible]																																												
503	1001	1535	1994	4911	5402	5818	6374	6885	7474	7953	8452	8929	9375	9927	10405	10835	11436	11962	12453	12918	13416	13904	14431	14938	15443	16032	16507	17031	17487	17973	18438	18937	19489	20017	20521	21001	21511	21998	22473	22963	23456	23952	24516	
504	1002	1542	1996	4912	5403	5819	6379	6886	7476	7953	8453	8931	9376	9938	10411	10839	11438	11963	13424	12919	13419	13905	14437	14942	15445	16037	16509	17033	17489	17974	18439	18938	19490	20030	20522	21009	21519	22000	22474	22968	23457	23958	24518	

The Notes specified above are to be redeemed at Citibank, N.A., Corporate Trust Services, 111 Wall Street, 5th Floor, New York, New York 10043 and the main offices of Citibank, N.A., in Amsterdam (The Netherlands); Brussels (Belgium); Frankfurt/Main (West Germany); London (England); Luxembourg (Luxembourg); Paris (France); Zurich (Switzerland); or Banque Internationale à Luxembourg (Luxembourg).

On the Redemption Date, the Notes shall become due and payable upon presentation and surrender thereof with all interest coupons maturing subsequent to the redemption date.

Coupons due July 15, 1987 should be detached and presented in the usual manner.

On and after July 15, 1987, interest shall cease to accrue on the Notes.

SUNKIST OVERSEAS FINANCE, N.V.

By: CITIBANK, N.A., Trustee

Dated: June 9, 1987

* This CUSIP number has been assigned by Standard & Poor's Corporation and is included solely for the convenience of the holders. Neither Sunkist Overseas Finance, N.V. nor the Trustee shall be responsible for the selection or use of this CUSIP number, nor is any representation made as to its correctness on the 10⅞% Guaranteed Notes or as indicated in any redemption notice.

NOTICE

Withholding of 20% of gross redemption proceeds of any payment made within the United States may be required by the Interest and Dividend Tax Compliance Act of 1983 unless the Paying Agent has the correct taxpayer identification number (social security or employer identification number) or exemption certificate of the Payee. Please furnish a properly completed Form W-9 or exemption certificate or equivalent when presenting your securities.

COMMODITIES AND AGRICULTURE

Philippines plans to smelt PNG copper

By Richard Gourlay in Manila

THE PHILIPPINES is close to signing a deal to import and smelt copper concentrate from Papua New Guinea that could lead to shipments of up to 100,000 tonnes a year.

The Philippine Associated Smelting and Refining Corporation will buy an initial 40,000 tonnes of copper concentrate from the Bougainville and Ok Tedi mines in Papua New Guinea once the final details of the deal are agreed, according to Mr Santiago Polido, the company's vice president. The first shipments are set to start in the third or fourth quarter of this year.

Pasar, which is a government-controlled company, already has a central bank allocation of foreign exchange and has verbal approval from the Department of Natural Resources, he said.

The company approached Bougainville and Ok Tedi early this year after negotiations to smelt metal on behalf of one of the PNG mines fell through. The company wants to diversify its sources of concentrate to become less dependent on filipino producers and to gain experience processing foreign materials, Mr Polida says.

If the trial shipment and processing is successful he estimates that Pasar could import between 10 and 20 per cent of its 480,000 tonne annual requirement from PNG.

CRA of Australia holds a majority stake in Bougainville Copper while Broken Hill Proprietary Australia and Amoco are the largest minority shareholders of Ok Tedi Mining, each having a 30 per cent stake.

Pasar's main supplier, Marcopper Corporation, has welcomed the decision to import concentrate from PNG. It will give additional flexibility to Filipino copper concentrate producers to export to the world market should Pasar's smelting costs become uncompetitive internationally, says Mr Pablo Paulino, Marcopper's vice president for finance.

Last year Pasar produced 134,000 tonnes of copper cathode metal from 446,000 tonnes of copper concentrate.

LONDON METAL EXCHANGE WAREHOUSE STOCKS

(Change during week ending last Friday)

		(tonnes)
Aluminium	−1,075	to 103,400
Copper	−2,650	to 107,250
Lead	+3,475	to 19,350
Nickel	+2,154	to 7,116
Tin	−385	to 27,680
Zinc	−3,425	to 29,000
		(ounces)
Silver	unchanged	at 22,288,000

Broker claims LME's tin settlement rule 'invalid'

BY DAVID BLACKWELL

THE LONDON Metal Exchange had no power to pass a rule which imposed a fixed settlement price on outstanding tin contracts following the 1985 collapse of the International Tin Council, the Commercial Court was told in London yesterday.

Mr Sam Stamler QC said the LME had failed to get all the necessary information before taking such drastic action. He was opening the claim by Shearson Lehman Bros, a trading company owned by American Express, and its subidiary Shearson Lehman Metals, against the London Metal Exchange and two LME traders.

Shearson is claiming damages of approximately £43m plus interest from Maclaine Watson and £18.5m plus interest from J. H. Rayner (Mincing Lane) for non-acceptance of tin which Shearson was under contract to sell them.

Mr Stamler described the two trading firms as "substantial."

"It is not an accident that Shearson dealt only with companies of this substance," he said.

Shearson maintains that the LME rule promulgated in March last year, and known as Rule M, is invalid. If the rule is found to be valid, however, Shearson claims it does not apply to its contracts, and also that it infringes articles 85 and 86 of the Treaty of Rome, part of the EC's competition rules.

Shearson alleges that between July and September 1985, on the instructions of the ITC, it entered into a series of "cash and carry" transactions with Maclaine and Rayner. It bought tin from the brokers, which agreed to buy back the same amount of tin at various dates between October and December.

The contract price in each case was about £9,000 a tonne.

Through non-acceptance of delivery, Shearson was left with metal worth about £3,500 a tonne on the free market after the ITC collapse in October 1985 — a loss of about £5,500 a tonne, said Mr Stamler.

The court's ruling, which like all other initial rulings in the tin cases is certain to be appealed, will affect all the claims by broker creditors of the ITC. It will determine whether the claims can be made on the pre-October 1985 contract prices of about £9,000 a tonne or on the ring-out price fixed under Rule M of £6,250 a tonne.

Mr John Mummery, for the Attorney General, told the court that a claim for immunity would be made in respect of certain ITC documents referred to in the case on the grounds that their disclosure would not be in the public interest. The hearing continues today.

Metal Exchange trades 20,000 contracts a day

BY DAVID BLACKWELL

THE LONDON Metal Exchange traded an average of more than 20,000 futures and options contracts a day last week—the first time the total figures for exchange inter-office trading have been known.

The information follows the adoption last Monday of the International Commodities clearing House system, as well as the introduction of officially traded options on the same day.

Before last week all LME trading was cleared on a principal to principal system, and options were traded only unofficially.

The total number of futures and options contracts traded were: Monday 14,780, Tuesday 22,216, Wednesday 20,190, Thursday 21,473 and Friday 24,169. This is about double the number traded in the corresponding week last year, although the figures are not strictly comparable because of the introduction of options. Expressed in tonnes the average daily turnover in the base metals—copper, lead, zinc, aluminium and nickel—in the first week of clearing was about 491,500 tonnes.

The number of options traded rose from 367 on Monday to a peak of 1,305 on Friday—about 5 per cent of the total volume.

Rubber compensation fund studied

THE RUBBER Association of Singapore is considering setting up a fund to compensate for losses that foreign businessmen may incur on futures contracts if a local trader defaults, according to Mr Ling Lee Hua, the association's chairman, reports Reuter from Singapore.

The proposed fund is aimed at strengthening the Singapore Rubber Market and assuring foreign traders, consumers and producers that they will not lose money while trading in Singapore "except through their own foolishness or misjudgment of the market," he sold the association's annual meeting.

Ling said any overseas trader, consumer or producer who fails to receive payment from local traders can turn to the proposed fund for compensation.

The RAS will find ways to honour all legitimate claims in disputes, he said.

He added his association is working towards "a streamlined trading syste min which all participants, anywhere in the world, will feel that their views are heard."

Industry officials said the proposed fund of between S$3m and S$5m is expected to be set up within about six months.

SA wool clip to stay low

BY JIM JONES IN JOHANNESBURG

SOUTH AFRICA'S 1987-88 season's wool clip is unlikely to be much greater than the 86.1m kilograms of 1986-87, according to the country's Wool Board.

The 1986-87 season which has just ended resulted in the lowest clip in 62 years, and wool farmers are estimated to have incurred losses of about R100m (£31m). The 1985-86 season's clip was 92.8m kilograms.

Mr Richard Pretorius, an executive of the Wool Board, blames the lower production for the drop in export earnings to R417m from the previous season's R427m.

Higher mohair, mutton and lamb prices had combined with the national grazing strategy to reduce wool production, he said. But prolonged drought and the deterioration of grazing in small stock areas had been the principal causes of the lower clip.

Mr Pretorius warned that sheep flocks could decline further unless good rains fell

Widening horizons for US maize

BY NANCY DUNNE IN WASHINGTON

THE US Department of Agriculture has been churning out optimistic forecasts on American maize exports recently. Brisk sales, particularly to the Soviet Union and Japan, have pushed the department's export estimate up 5 per cent to 36.8m tonnes this year.

The outlook for next year is even better. World maize demand is expected to expand by 5 per cent, leading to a reduction in stocks.

This is good news at a time when unused US maize stocks total over 5bn bushels, more than 60 per cent of the 1986 crop. But farm groups are no longer looking to the feed export market alone for the answer to their surpluses. Increasingly, new uses for maize are being sought, researched and discovered.

Conferences like one this Thursday and Friday in St Louis, Missouri, sponsored by the National Corn Growers Association and Funk Seeds International, are spreading the word about new finds and their applications.

Standing as a model of what persistence and research can achieve is the expanded market for maize sweeteners, which now account for more than half the calorific sweetners consumed in the US. This once minor product now swallows up 530m bushels of maize each year.

The corn growers have financed and lobbied around the country in the cause of maize substitutes. They have been particularly successful in promoting fuel ethanol (distilled from maize) as an environmentally clean, cost effective octane enhancer in gasoline. US ethanol producers now consume 300m bushels of maize each year, up from only 4m bushels in 1978. The association's goal is to expand usage to 1bn bushels by 1990.

Ethanol use in diesel engines is to get a big push from the clean air standards imposed by the Environmental Protection Agency to go into effect for city uses by 1991 and for other vehicles by 1994. A breakthrough to be discussed at the conference is the development by Trans Energy Corporation in Phoenix of a precision sprak injection system, said to allow diesels using ethanol to start operate more smoothly.

In boosting ethanol, the association is not shy about stressing its potential as an alternative to oil dependence and as a means of reducing "the transfer of US wealth to the Middle East."

The active Corn Growers Association in Illinois recently scored a coup when it convinced the state legislature to appropriate $1m to construct an ethanol/carbon monoxide coal desulfurisation demonstration reactor. The project will employ a process using ethanol to remove most of the sulphur from coal, which leaves a higher grade fuel and several expensive marketable by-products without producing large quantities of hazardous wastes.

The scheme marries maize and coal, the state's two largest industries, both of which are economically depressed, and it offers to the maize producers a possible market for 275m bushels of maize in the form of 690m gallons of ethanol.

Ethanol may get a boost from another project, in Denver, where the Colorado Air Quality Control Commission is expected to issue rules to reduce the city's carbon monoxide levels. If the Commission follows the recommendation of its task force, then between November 1 and March 1, all gasoline sold locally will have to contain ethanol to elevate the oxygen levels. Arizona, Minnesota, New Mexico and California are all watching the Colorado programme to assess its contribution towards cleaner air.

Meanwhile, maize producers have their eyes on several new uses, like the new de-icer, calcium magnesium acetate (CMA) due for commercial release next winter. CMA, a non-corrosive substitute for road salt manufactured by the Chevron Corporation under the brand name "Ice-B-Gone," using petroleum based natural gas as a feedstock.

Chevron has invested $35,000 and the Corn Growers Association $25,000 for a project to test maize as a potentially cleaner and less expensive feedstock to produce CMA. Mr Marion Harman, chairman of the association's research committee, calculates that if the maize process is adopted commercially and CMA replaces just 10 per cent of the salt currently used to de-ice US roads, then 60m bushels of maize would find a new use each year.

The possibilities for maize seem endless, say the researchers. They are talking of biodegradable plastics, a blend of maize starch and synthetic polymers, for garbage bags, bottles and wrappers. "Zein," a by-product of wet milling to be made into a wool-like textile fibre, and maize starch for filtering fuel.

Growth in the export market is welcome, but US growers, having suffered their worst recession in 50 years, are now hoping to insure themselves against the cycles and disappointments they have endured in the past.

John Cherrington is on holiday.

Israel rejects 'unlawful' harvest

BY JUDITH MALTZ IN JERUSALEM

ISRAELI WHEAT growers' satisfaction at harvesting their first bumper crop in three years has been cut short by news that, for religious reasons, the entire 1987 domestic crop is to be treated as surplus to requirements.

The country's ultra-orthodox "haredim" have prevailed on the Government to reject the 1987 crop on the grounds that it has been produced in defiance of the "shmitta" law, which says that on every seventh year the land must be allowed to lie fallow. So the Government has agreed to import an extra 200,000 tonnes of wheat from the US to replace its own growers' unwanted produce.

In order to get around the highly impractical shmitta law, the chief rabbis at the time of the establishment of the state ruled that Jews could sell their fields for the year to non-Jews so that they could continue working them. The "haredim," representing a disproportionately powerful 6 per cent of the population, have always rejected this loophole, however, and have insisted that all their food needs during the year should be imported.

Bowing to this pressure Mr Yoram Bilisovsky, director-general o fthe Ministry of Industry and Trade set off late last month for Washington, where he succeeded in reaching agreement with US agricultural officials that Israel would add 200,000 tonnes this year to its normal purchases. The price will be a subsidised $80 per tonne, rather tha nthe usual $120 per tonne. Israel traditionally imports close to three-quarters of its 650,000 tonnes-a-year wheat requirement, all of it from the US.

On Sunday, the Israeli treasury informed the country's farmers that it would no longer be purchasing their wheat this year and that they would have to finance the cost of exporting their surpusses on their own. The difference between wheat import and export prices could cost the country upwards of $10m this year.

The decision has understandably enraged the country's wheat growers, who are in the middle of harvesting a crop almost double last year's 140,000 tonnes.

"We are going to put up a struggle even if we have to bring this issue to the courts," said Mr David Dor, head of the Organisation of Field Crop Labourers. The Ministry of Industry and Trade has also come under sharp attack in recent days from leading political figures, religious and non-religious alike, for yielding to the ultra-orthodox body.

he The "wheat problem," according to Mr Billsvsky, had never arisen in previous "shmitta" years because the Government had always been able to come to an agreement with the "haredim" whereby certain small mills would be designated solely for imported wheat. But since then, he claims, the small mills have closed down and the large mills fearing the loss of their "haredim" clientele now refuse to purchase and process locally grown wheat.

LONDON MARKETS

SUPPLY CONCERN because of the continuing strike at Cominco's Trail / Kimberley operation in British Columbia helped to lift zinc values on the London Metal Exchange again yesterday. Dealers said a fall in LME warehouse stocks last week, reflecting the removal of metal from warehouses to cover shortfalls caused by the month-old Peruvian force majeure, was another significant factor as the cash LME position reached £544.50 a tonne, adding £10.50 to Friday's £14.50 advance. They said the Peruvian shortfalls, resulting from technical difficulties at the Cajamarquilla smelter, more than outweighed arrivals of metals from the Far East. The aluminium market also continued its upward trend with the cash standard grade position adding another £5.50 at £919 a tonne. The new high-grade three-month position advanced by $11 to $1,587.50 a tonne after losing some of its early gains, which had reflected news that LME stocks of that grade totalled only 2,075 tonnes.

LME prices supplied by Amalgamated Metal Trading.

ALUMINIUM

99.7% purity	Unofficial close (p.m.) $ per tonne	+ or —	High / Low
Cash	—		
3 months	1,587-8	+11	1,592/582

Official closing (am): Cash —— (——): three months 1592-3 (1558-60); settlement —— (——). Final Kerb Close: 1580-5. Turnover: 10,650 tonnes.

99.5% purity	£ per tonne	+ or —	High / Low
Cash	916-8	+5.5	927
3 months	896.5-7	+4.5	904/891

Official closing (am): Cash 925.5-7.5 (904-5); three months 902-2.5 (884-5); settlement 927.5 (905). Final Kerb Close: 893-4. Turnover: 21,650 tonnes.

COPPER

Grade A	Unoffic'l close £ per tonne	+ or —	High/Low
Cash	957-8	−0.25	958/955
3 months	936.5-7	+3.25	942/929

Official closing (am): Cash 954-5 (956-7.5); three months 933-4 (934-4.5); settlement 955 (957.5). Final Kerb Close: 940-1.

Standard			
Cash	923-5	—	—
3 months	911-2	+5.5	912

Official closing (am): Cash 920-3 (925-7); three months 905-10 (908-9); settlement 923 (927). US Producer prices 72-77 cents per pound. Total turnover: 54,300 tonnes.

LEAD

	Unofficial close (p.m.) £ per tonne	+ or —	High/Low
Cash	383-4	+0.5	385
3 months	363-4	+1	369/363

Official closing (am): Cash 385-6 (377-8); three months 364-5 (360-1); settlement 386 (378). Final Kerb Close: 365-6. Turnover: 10,050 tonnes. US Spot: 24-37 cents per pound.

NICKEL

NICKEL

	Unofficial close (p.m.) £ per tonne	+ or —	High/Low
Cash	2645-55	−14.5	—
3 months	2660/5	−15.5	2685/2675

Official closing (am): Cash 2640-50 (2660-5); three months 2675-80 (2684-6): settlement 2650 (2665). Final Kerb Close: 2660-5. Turnover: 504 tonnes.

ZINC

High grade	Unofficial close (p.m.) £ per tonne	+ or —	High/Low
Cash	544-5	+10.5	543/542
3 months	551.5-2.5	+7.5	553-5/538

Official closing (am): Cash 542-3 (521-2); three months 531-2 (518-9); settlement 543 (522). Final Kerb Close: 530-1. Turnover: 7,525 tonnes. US Prime Western: 41.50-45.75 cents per pound.

TIN

KUALA LUMPUR TIN MARKET: Close 16.56 (16.63) ringgit per kg. Down 0.07 ringgit per kg.

LONDON METAL EXCHANGE TRADED OPTIONS

	Strike Price $/tonne	Calls Nov.		Puts Nov.	
Aluminium 99.7%	—	—		—	
	—	—		—	
	—	—		—	
		July	Sept.	July	Sept.
Aluminium 99.5%	1,453	—	—	14	45
	1,475	57½	46½	22	58
	1,500	43	36½	—	—
Copper (Grade A)	1,525	—	—	28	39
	1,550	29	31½	34½	52½
	1,575	19½	25	—	—
	£/tonne				
Copper (Grade A)	935	—	—	11½	22
	950	17½	21½	23	35
	975	9½	13½	—	—

Estimates.

GOLD

GOLD BULLION (fine ounce)	June 8	
Close	$455½-456	(£277¾-278¼)
Opening	$455¾-456¼	(£278½-279)
M'n'g fix	$454.40	(£277.496)
Aft'n'n fix	$456.55	(£277.977)
Day's high	$456½-456¾	—
Day's low	$454¼-454¾	—

GOLD AND PLATINUM COINS

Am Eagle	$466-473	(£285¾-288¾)
Mapleleaf	$468-471	(£285¾-287½)
Kr'g'r'nd	$458-461	(£279½-281¼)
½ Krug	$237-238	(£144¾-145¼)
¼ Krug	$119-120	(£72¾-73¼)
Angel	$465½-468½	(£284-286)
1/10 Angel	$46.50	(£27½-30½)
New Sov	$108-109	(£66-66½)
Old Sov	$108-109½	(£66-66¾)
Noble Plat	$593-608	(£365-371)

COTTON

LIVERPOOL—Spot and shipment sales for the week ended June 5 amounted to 742 tonnes against 150 tonnes in the previous week. Moderate trading occurred with support for West African, East African and American growths.

MEAT

MEAT COMMISSION—Average fatstock prices at representative markets. GB—Cattle 98.95p per kg lw (−0.80). GB—Sheep 220.03p per kg est dcw (+3.21). GB—Pigs 80.23p per kg lw (−0.22).

FUTURES—Pigs: June 98.50, sales 2. Live cattle: June 98.80, sales 2.

INDICES

REUTERS

June 8	June 5	M'th ago	Year ago
1608.5	1607.6	1593.9	1588.8

(Base: September 18 1931 = 100)

DOW JONES

Dow Jones	June 4	June 3	M'th ago	Year ago
Spot	128.39	128.22	—	126.26
Fut	126.57	125.63	—	115.60

(Base: December 31 1931 = 100)

MAIN PRICE CHANGES

	June 9 1987	+ or —	Month ago
METALS			
Aluminium			
Free Market	$1620/640	+35	$1505/525
Copper			
Cash Grade A	£957.5	−0.25	£919
3 months	£936.5	+3.25	£893.75
Gold Troy oz	$455.75	+1.5	$454.5
Lead Cash	£383	+0.5	£420
3 months	£363.5	+1	£371.75
Nickel			
Free Mkt.	197/217c		214/234c
Palladium oz	$138.50	−1.00	$147.00
Platinum oz	$584.00	+7.75	$612.00
Quicksilver†	$260/270		$270/285
Silver troy oz.	479.20p	−3.80	497.35p
3 months	489.65p	−3.00	506.15p
Tin			
free Mkt.	£4110/140	−30	£4145/165
Tungsten	$58.16		$46.93
Wolfram 22.04lb	$48/55		$50/55
Zinc	£544.5	+10.5	£554.5
3 months	£552	+7.5	£560.5
producers	$830		$790/840
OILS			
Coconut (Phil)	$450z	+10	$415
Palm Malayan	$540v		$537.5
Seeds			
Copra (Phil)	$285v		$270
Soyabean (U.S.)	$156		$148
GRAINS			
Barley Fut. Sept	£97.70	−0.15	£96.65
Maize	£152.00		£145.50
Wheat Fut. Sept	£99.90	+0.10	£128.10
No. 2 Hard Wint.	‡		‡
OTHERS			
Cocoa Ft. Sept	£1255.5	+9	£1293.5
Coffee Ft. Sept	£1316.5	−8	£1349.5
Cotton A Ind.*	80.60c	+0.15	74.30c
Gas Oil July	$156.25	+1.75	$156.25
Rubber (kilo)	63.5p	−1.75	61p
Sugar (raw)	$166.6z	−0.4	$176.5
Wooltops 64s	487p kilo	−2	481p kilo

‡ Unquoted. † Per 75-lb flask. c Cents a pound. * Cotton outlook. v July. z June/July. x July/Aug. y Aug.

SILVER

Silver was fixed 3p an ounce lower for spot delivery in the London bullion market yesterday at 479.2p. US cent equivalents of the fixing levels were: spot 786c, down 2c; three-month 800.15c, down 2c; six-month 814.55c, down 1.7c; and 12-month 845.95c, down 2.15c. The metal opened at 480-484p (786-791c) and closed at 479-483p (786-791c).

SILVER per troy oz	Bullion Fixing Price	+ or —	L.M.E. p.m. Unoffic'l	+ or —
Spot	479.20p	−3.80	485p	+5
3 months	489.55p	−3.10	495p	+4
6 months	499.55p	−2.95	—	—
12 months	520.05p	−3.10	—	—

LME—Turnover: 5 (4) lots of 10,000 oz.

Three months final kerb 495-500p.

COFFEE

Another European holiday restricted activity. As robustas traded within a confined range, commission house liquidation was absorbed by industry price-fixing, reports Drexel Burnham Lambert.

COFFEE	Yesterday close	+ or —	Business done
July	1292-1295	−10.5	1295-1280
Sept	1315-1316	−9.0	1315-1300
Nov.	1335-1340	−5.5	1338-1322
Jan	1358-1365	−14.5	1357-1345
Mar.	1370-1375	−14.0	1377-1370
May	1387-1390	−19.0	1392-1389
July	1395-1415	−25.5	1420

Sales: 2,772 (3,836) lots of 5 tonnes. ICO indicator prices (US cents per pound) for June 5: Comp. daily 1979 104.06 (104.81); 15-day average 110.02 (110.60).

COCOA

In lively trading futures gained £20 at the highs and closed on a reasonably steady note though much of the European market was on holiday. Physical interest was again centred on the buffer stock manager who purchased a further 5,000 tonnes and took his total to 42,000 tonnes, reports Gill and Duffus.

	Yesterday's close £ per tonne	+ or —	Business done
July	1245-1250	+16.0	1255-1234
Sept.	1235-1236	+9.0	1241-1228
Dec.	1261-1262	+9.5	1267-1255
March	1285-1286	+8.0	1291-1284
May	1303-1307	+8.5	1312-1302
July	1322-1327	+8.5	1332-1320
Sept.	1342-1346	+9.5	1350-1348

Sales: 4,173 (5,767) lots of 10 tonnes. ICCO indicator prices (SDRs per tonne). Daily price for June 8: 1511.42 (1498.52); 10-day average for June 9: 1629-85 (1634.43).

FREIGHT FUTURES

The market opened marginally higher and thereafter traded quietly in a fairly narrow range. The firmer tone was seen as a corrective to Friday's fall and the slightly oversold situation. Despite the announcement of a lower BFI the market made further gains to trade at the highs during the afternoon prior to profit-taking on he close, reports Clarkson Wolff.

	Close	High/Low	Prev.
Dry Cargo			
July	860	855/840	838
Oct.	920/925	925/915	905
Jan.	1000	—	900
Apr.	1025	—	—
July	900	—	—
Oct.	850/880	—	—
Jan.	1000	—	—
April	1000/1040	—	—
BFI	986.5	—	969.5

Turnover: 152 (645).

GRAINS

Old crop wheat found bids and offers 50p apart all day and failed to trade. New crops, after sharp declines, firmed on shipper and commission house short-covering to close on a steady tone, reports T. G. Roddick.

Mnth	WHEAT Yest'rdy's close	+ or —	BARLEY Yest'rdy's close	+ or —
July	117.35	−0.05	—	—
Sep.	99.80	+0.10	97.70	−0.15
Nov.	102.35	+0.15	100.15	−0.15
Jan.	104.95	+0.20	102.55	−0.15
Mar.	107.45	+0.20	104.80	−0.35
May	110.15	+0.15	106.35	−0.25
July	113.25	+0.20	—	—

Business done—Wheat: July 117.40-7.00. Sept untraded, Nov 102.35-2.20.

Business done—Wheat: July untraded, Sept 99.60, Nov 102.35-1.85, Jan 104.95-4.45, Mar 107.20-7.15, May 109.95-9.70. July untraded Sales: 167 lots of 100 tonnes. Barley. Sept 97.50, Nov 100.15-0.00, Jan untraded, Mar 104.75, May untraded. Sales. 57 lots of 100 tonnes.

LONDON GRAINS—Wheat: US hard winter 13½ per cent June 95.00, July 99.25, Aug 94.50. US no 2 soft red winter June 91.00, July 90.50, Aug 91.25. French 11½-12 per cent June 143.00. English feed fob June 119.00 buyer, Sept 101.50/102.50, Oct/Dec 105.50/106.00, Jan/Mar 109.50/110.50 buyer/sellers. Maize: US no 3 yellow/French transhipment east coast spot 152.00. Barley: English feed fob June 108.50, Aug 100.00, Sept 101.00 sellers, Oct/Dec 104.00, Jan/Mar 108.00 buyers.

HGCA—Locational ex-farm spot prices. Feed barley: E. Mids 104.60. The UK monetary coefficient for the week beginning Monday June 15 (based on HGCA calculations using three days' exchange rates) is expected to remain unchanged.

POTATOES

The market was again extremely quiet, lacking any strong direction. April found nervous support around the £130.00 level, reports Coley and Harper.

Month	Yesterday's close	Previous close	Business done
	£ per tonne		
Nov.	91.80	92.60	92.50
Feb.	100.00	101.30	—
Apr.	130.60	131.30	131.50-129.90
May.	144.30	145.80	—

Sales: 229 (253) lots of 40 tonnes.

OIL

	Latest	Change + or —
CRUDE OIL—FOB ($ per barrel)—July		
Arab Light	—	—
Arab Heavy	—	—
Dubai	17.20-17.25	+0.05
Brent Blend	18.80-18.85*	+0.075
W.T.I. (1pm est)	19.90-19.95	+0.20
Forcados (Nigeria)	—	—
Urals (cif NWE)	—	—
PRODUCTS—North West Europe		
Prompt delivery cif ($ per tonne)		
Premium gasoline	199-202	—
Gas Oil	153-155	+1
Heavy fuel Oil	106-108	—
Naphtha	170-172	—

* June

Petroleum Argus estimates

SOYABEAN MEAL

Prices remained steady on commercial buying against further option hedge selling in quiet conditions, reports Muirpace.

	Yesterd'ys close £ per tonne	+ or —	Business done
June	—		137.0
August	131.6-132.0	+0.70	132.0-131.8
October	132.2-132.6	+0.30	132.5-131.7
Dec.	135.0 135.6	+0.55	133.5-134.8
Feb.	138.0-137.0	+0.30	—
April	137.0-137.1	+0.80	137.0
June	131.0-137.0	+0.75	—

Sales: 217 (317) lots of 20 tonnes.

US MARKETS

EARLY COMMSSION house and local buyng steadied the the precious metals, reports Drexel Burnham Lambert. Trade selling at the highs prompted loca proft-taking which took the markets back to the lows where short-covering saw prices recover slightly. However, towards the close of fresh commission house left prices at the lows. In addition, in silver and copper futures early buying included fund interest and stops were touched off as the markets fell back. Energy futures were quiet but supported by light trade interest. In crude oil light fund buying was a feature in a market dominated by the locals. Cofee futures rallied on light trade buying. Cocoa firmed on technical buying reflecting the easier dollar. The grains were quiet with commercial selling apparent in all the markets including the soyabean complex. Only maize futures managed noticeable gains on local and speculative buying. The meats were all weak as nervous traders took profits as cattle failed to make new contract highs. The feeling was that although dundamentals remain constructive, the meats are all overbought and this contributed to their weakness.

NEW YORK

ALUMINIUM 40,000 lbs, cents/lb

	Close	Prev	High	Low
June	74.05	73.35	—	—
July	72.25	71.50	71.50	71.50
Aug	70.65	69.90	—	—
Sept	70.00	68.50	69.50	69.50
Dec	69.00	67.80	68.00	67.80
Jan	69.00	67.80	—	—
March	69.00	67.80	—	—
May	69.00	67.80	—	—

COCOA 10 tonnes, $/tonne

	Close	Prev	High	Low
July	1849	1828	1858	1843
Sept	1882	1860	1885	1877
Dec	1914	1892	1917	1908
March	1943	1922	1946	1941
May	1970	1953	1976	1975
July	1995	1980	2000	1999
Sept	2024	2009	—	—

COFFEE "C" 37,500 lbs, cents/lb

	Close	Prev	High	Low
July	111.91	110.11	112.40	109.30
Sept	113.14	111.85	113.75	111.30
Dec	114.70	114.41	115.60	113.50
March	116.25	115.50	116.75	115.50
May	116.75	116.25	116.50	116.50
July	116.75	116.25	116.50	116.50
July	118.13	119.00	118.50	118.00
Sept	119.25	117.01	119.25	118.00

COPPER 25,000 lbs, cents/lb

	Close	Prev	High	Low
June	69.65	69.95	69.60	69.60
July	69.65	69.05	70.50	69.00
Aug	68.75	68.15	—	—
Sept	67.95	67.25	68.55	67.20
Dec	67.65	66.95	68.40	67.20
Jan	67.55	66.65	—	—
March	67.40	66.65	68.00	67.00
May	67.45	66.70	67.70	67.70
July	67.50	66.75	67.25	67.25
Sept	67.55	66.80	—	—

COTTON 50,000 lbs, cents/lb

	Close	Prev	High	Low
July	72.66	74.60	74.80	72.80
Oct	70.00	71.80	72.00	69.80
Dec	69.36	71.32	71.40	69.32
March	70.09	71.93	71.90	70.09
May	70.60	72.30	72.40	70.60
July	70.80	72.57	72.80	71.62
Oct	67.20	68.90	68.50	68.50

CRUDE OIL (LIGHT) 42,000 US gallons, $/barrels

	Latest	Prev	High	Low
July	19.80	19.79	19.96	19.80
Aug	19.57	19.49	19.73	19.51
Sept	19.55	19.33	19.66	19.37
Oct	19.50	19.27	19.51	19.32
Nov	19.49	19.24	19.50	19.21
Dec	19.49	19.22	19.49	19.25
Jan	19.42	19.20	19.42	19.34
Feb	19.39	19.18	19.39	19.30
March	19.35	19.18	19.34	19.30
April	19.30	19.14	—	—

HEATING OIL 42,000 US gallons, cents/US gallons

	Latest	Prev	High	Low
July	52.00	51.37	52.10	51.60
Aug	52.60	51.95	52.70	52.00
Sept	53.35	52.65	53.40	52.90
Oct	54.15	53.50	54.20	53.75
Nov	54.90	54.30	54.90	54.60
Dec	55.55	55.05	55.60	55.25
March	55.00	54.30	55.00	55.00

ORANGE JUICE 15,000 lbs, cents/lb

	Close	Prev	High	Low
July	131.45	132.35	132.05	131.10
Sept	127.15	127.60	127.55	127.00
Nov	123.65	123.95	124.00	123.55
Jan	122.85	122.85	123.00	123.00
March	122.85	122.90	122.90	122.75
May	122.85	122.85	—	—
July	122.85	122.85	—	—

GOLD 100 troy oz, $/troy oz

	Close	Prev	High	Low
June	449.5	453.8	458.6	449.5
July	451.5	455.7	—	—
Aug	454.3	458.8	463.7	454.3
Oct	459.7	464.2	469.0	—
Dec	465.1	469.6	474.5	464.5
Feb	471.0	475.5	480.5	472.0
April	516.4	520.9	—	—
June	483.1	487.6	492.0	485.0
Aug	489.6	494.1	498.0	490.0
Oct	496.4	500.7	505.0	501.0
Dec	502.8	507.3	513.0	503.0
Feb	509.5	514.0	—	—

PLATINUM 50 troy oz, $/troy oz

	Close	Prev	High	Low
July	574.5	579.3	588.5	571.0
Oct	583.0	587.2	597.0	580.0
Jan	589.0	594.4	600.0	589.0
April	600.0	601.9	600.0	600.0
July	620.0	609.4	—	—

SILVER 5,000 troy oz, cents/troy oz

	Close	Prev	High	Low
June	759.7	779.2	809.0	809.0
July	763.0	783.0	811.0	760.0
Aug	768.0	788.1	—	—
Sept	773.1	793.2	822.0	771.5
Dec	789.0	809.2	837.0	787.0
March	804.9	825.4	853.0	810.0
July	827.6	848.9	820.0	820.0

SUGAR WORLD "11" 112,000 lbs, cents/lb

	Close	Prev	High	Low
July	6.64	6.56	6.74	6.59
Sept	6.73	6.65	6.76	6.70
Oct	6.96	6.83	7.03	6.89
Jan	7.10	6.99	—	—
March	7.34	7.24	—	—
May	7.48	7.38	7.49	7.43
July	7.60	7.52	7.61	7.54
Oct	7.78	7.70	7.78	7.68

CHICAGO

LIVE CATTLE 40,000 lb, cents/lb

	Close	Prev	High	Low
June	68.07	68.02	68.80	67.65
August	63.20	63.57	64.35	62.75
Oct	61.90	62.10	62.70	61.57
Dec	63.02	63.17	63.68	62.70
Feb	63.35	63.45	63.90	62.96
April	63.90	64.10	64.40	63.70
June	63.30	63.30	63.60	63.30

LIVE HOGS 30,000 lb, cents/lb

	Close	Prev	High	Low
June	61.52	61.67	62.50	61.40
July	57.77	58.02	58.90	57.60
August	53.62	53.40	54.27	53.20
Oct	45.60	45.35	46.15	45.15
Dec	45.37	45.55	46.10	45.00
Feb	44.60	44.50	44.90	44.25
April	42.10	41.90	42.20	41.90
June	43.70	43.40	43.70	43.30
July	43.30	43.30	43.55	—

MAIZE 5,000 bu min, cents/56-lb bushel

	Close	Prev	High	Low
July	189.6	189.2	191.2	188.4
Sept	192.4	192.2	195.2	191.4
Dec	197.0	197.2	200.6	195.0
March	205.4	205.8	209.0	203.8
May	209.2	209.6	213.0	208.2
July	211.0	211.0	214.2	210.0
Sept	210.0	210.0	214.0	210.0

PORK BELLIES 38,000 lb, cents/lb

	Close	Prev	High	Low
July	77.35	78.27	79.60	76.40
August	74.45	75.50	77.30	73.95
Feb	61.45	62.80	63.50	61.05
March	61.12	62.45	63.30	60.60

SOYABEANS 5,000 bu min, cents/60-lb bushel

	Close	Prev	High	Low
July	567.2	565.4	572.0	555.0
August	559.0	570.0	578.4	559.0
Sept	560.2	570.0	577.0	558.0
Nov	567.2	577.2	585.4	563.0
Jan	575.4	587.0	594.4	572.0
March	584.0	595.0	602.4	584.0
May	591.4	602.0	610.0	591.0
July	592.0	602.0	611.0	591.0
August	599.0	599.0	—	—

SOYABEAN MEAL 100 tons, $/ton

	Close	Prev	High	Low
July	172.4	174.9	177.2	171.8
August	170.2	172.8	174.8	169.0
Sept	170.5	172.7	175.0	170.2
Oct	170.8	173.0	177.0	170.7
Dec	173.7	175.7	179.5	172.5
Jan	175.5	177.5	180.0	175.0
March	178.0	180.0	182.5	178.8
May	178.2	179.0	178.0	179.5
July	178.5	179.5	181.0	178.5
August	178.2	179.5	178.0	178.5

SOYABEAN OIL 60,000 lb, cents/lb

	Close	Prev	High	Low
July	16.69	16.88	17.05	16.84
August	16.89	17.05	17.24	16.84
Sept	17.07	17.25	17.45	17.01
Oct	17.23	17.45	17.61	17.20
Dec	17.55	17.76	17.93	17.45
Jan	17.66	17.88	17.98	17.60
March	17.82	18.10	18.20	17.80
May	18.10	18.30	18.40	18.10
July	18.30	18.52	18.60	18.30

WHEAT 5,000 bu min, cents/60-lb bushel

	Close	Prev	High	Low
July	261.6	265.2	267.4	261.4
Sept	268.4	272.2	274.0	268.2
Dec	275.2	278.4	281.4	274.6
March	277.4	282.4	283.4	277.0
May	273.0	279.0	279.6	273.0
July	268.0	273.0	273.0	268.0

SPOT PRICES—Chicago loose lard 14.50 (same) cents per pound. Handy and Harman silver bullion 767.0 (784.0) cents per troy ounce. New York tin 315-9 (same) cents per pound.

SUGAR

LONDON DAILY PRICE—Raw sugar $166.60 (£102.00), down 40c (unchanged) a tonne for June-July delivery. White sugar $180.00, down $1.20.

No. 6 Contract	Yest'day's close	Previous close	Business done
	$ per tonne		
Aug	148.2-148.6	149.40-150.0	150.4-148.2
Oct.	155.4-155.6	156.60-156.8	157.0-155.2
Dec	158.2-160.0	159.00-160.0	—
Mar.	164.4-164.6	164.80-165.2	165.0-165.0
May	167.8-168.0	167.00-168.0	167.6- —
Aug	171.0-172.0	171.00-172.6	—
Oct.	172.6-175.0	173.80-174.2	—

Sales: 1,338 (1,844) lots of 50 tonnes.

Tate and Lyle delivery price for granulated basis sugar was £206.00 (same) a tonne for export.

International Sugar Agreement—(US cents per pound fob and stowed Caribbean ports). Prices for June 5: Daily price 6.36 (6.33); 15-day average 6.59 (6.62).

GAS OIL FUTURES

Month	Yest'rdy's close US$ per tonne	+ or —	Business done
June	155.25	+1.50	155.50-54.25
July	156.25	+1.75	156.57-55.00
Aug	158.50	+1.75	158.50-57.50
Sept	160.00	+1.25	160.25-58.50
Oct	162.00	+0.50	162.00
Nov	164.50	+1.50	—

Turnover: 1,667 (3,278) lots of 100 tonnes.

TEA

There were 29,892 packages on offer at the London tea auction, including 2,600 packages in the offshore section, reports the Tea Brokers' Association. Demand continued to be very selective. Assams proved irregularly 5-10p lower with poorer sorts neglected. Bangladesh teas also sold at easier rates with heavy withdrawals. Bright liquoring East Africans remained about steady while all other descriptions lost 3-8p. Ceylons met fair demand with prices generally 6p easier. Offshore teas again attracted very limited interest. Quotations: quality 140p a kg. (140p); medium 93p a kg. (98p); low medium 52p a kg. (56p).

هكذا من الأصل

CURRENCIES, MONEY & CAPITAL MARKETS

FOREIGN EXCHANGES

Dollar eases slightly

THE DOLLAR drifted slightly in relatively quiet trading yesterday. Most of Western Europe was closed for Whit Monday and those traders still in the market found little incentive to trade while the economic summit in Venice was in session.

However the softer tone did reflect a degree of unease in the market about the prospects of major nations achieving anything concrete at the summit. There were fears that West Germany's reluctance to cut its own interest rates and boost its economy in order to reduce the US trade deficit would lead to a further weakening of the dollar especially if further economic data pointed to weak growth.

This tended to highlight the release on Friday of US trade figures for April. These are expected to show a deficit of around $14bn compared with a shortfall in March of $13.6bn which is not very encouraging and a figure showing a bigger deficit than this could see the dollar coming under further downward pressure.

Comments by Mr James Baker, US Treasury Secretary, stressing that no fresh initiative was likely to come out of the Venice summit was offset to some extent by news that some of the trade sanctions imposed by the US on Japanese goods were to be lifted. This helped to pull the dollar back above DM 1.80 after it had touched a low of DM 1.7935 and it closed at DM 1.8045 still down from DM 1.8135 on Friday.

It was also lower against the yen at Y143.40 from Y143.80 and SFr 1.5005 compared with SFr 1.5030. Elsewhere it slipped to FFr 6.0350 from FFr 6.0650. On Bank of England figures, the dollar's exchange rate index fell from 101.7 to 101.3.

STERLING—Trading range against the dollar in 1987 is 1.6885 to 1.4710. May average 1.6665. Exchange rate index 72.7, against 72.6 at the opening and last night's close. The six months ago figure was 68.8.

The pound was steady for most of the day and showed little overall change from Friday's closing levels. Dealers suggested that as long as the Conservative Party looked to be on course for a third term in office, the pound would trade within a narrow range. Sharp fluctuations were unlikely to occur unless the opposition parties eroded the Conservative lead.

UK producer prices for may showed a 0.2 per cent fall in input costs and a 0.3 per cent rise in output prices. These were much in line with expectations and served to underpin the pound although election nerves tended to stay the prime factor affecting sentiment.

The pound closed at $1.6390 from $1.6310 and was unchanged against the D-Mark and French franc at DM 2.9575 and FFr 9.8925 respectively. Against the yen it rose to Y235.0 from Y234.50 and SFr 2.46 compared with SFr 2.4525.

JAPANESE YEN—Trading range against the dollar in 1987 is 159.45 to 138.35. May average 140.55. Exchange rate index 222.2 against 207.5 six months ago.

Trading was extremely quiet in Tokyo and the dollar eased slightly as dealers revised their expectations on the outcome of the Venice summit. Most were convinced that little fresh incentive to support the dollar would be forthcoming so that the US unit would be forced lower on further poor economic data.

Such news could come on Friday when US trade figures for April are released. Analysts have suggested a deficit of around $14bn compared with a $13.6bn shortfall in March. This would not be seen as encouraging in any way and would probably push the dollar weaker. The US unit closed at Y143.25 down from Y143.95 in New York and Y143.60 in Tokyo on Friday.

£ IN NEW YORK

June 8	Latest	Previous Close
Spot	1.6380-1.6390	1.6290-1.6300
1 month	0.25-0.24 pm	0.24-0.23 pm
3 months	0.64-0.61 pm	0.63-0.61 pm
12 months	1.45-1.35 pm	1.34-1.37 pm

Forward premiums and discounts apply to the U.S. dollar.

STERLING INDEX

	June 8	Previous
8.30 am	72.6	72.7
9.00 am	72.6	72.7
10.00 am	72.6	72.7
11.00 am	72.6	72.7
Noon	72.6	72.6
1.00 pm	72.5	72.7
2.00 pm	72.5	72.7
3.00 pm	72.6	72.6
4.00 pm	72.7	72.6

CURRENCY RATES

June 8	Bank rate %	Special Drawing Rights	European Currency Unit
Sterling	—	0.790041	N/A
U.S. Dollar	5.5	1.29464	"
Canadian $	7.90	"	"
Austria Sch.	4	N/A	"
Belgian Franc	7¾	"	"
Danish Krone	7	"	"
Deutsch Mark	3.0	"	"
Neth. Guilder	4½	"	"
French Franc	9½	"	"
Italian Lira	11.5	"	"
Japanese Yen	2½	185.781	"
Norway Krone	8	N/A	"
Spanish Peseta	—	"	"
Swedish Krona	7½	"	"
Swiss Franc	3.5	"	"
Greek Drch.	20½	"	"
Irish Punt	—	"	"

*CS/SDR rate for June 8: 1.79534

CURRENCY MOVEMENTS

June 8	Bank of England Index	Morgan Guaranty Changes %
Sterling	72.7	−20.8
U.S. Dollar	101.3	−5.5
Canadian Dollar	76.8	−11.6
Austrian Schilling	138.4	+10.3
Belgian Franc	100.3	−4.3
Danish Krone	93.6	+3.6
Deutsche Mark	147.4	+21.9
Swiss Franc	173.1	+22.5
Guilder	135.4	+14.5
French Franc	71.6	−12.9
Lira	47.3	−18.2
Yen	222.2	+65.3

Morgan Guaranty changes: average 1980-1982=100. Bank of England Index (Base Average 1975=100).

OTHER CURRENCIES

June 8	£	$
Argentina	2.6715-2.6810	1.6290-1.6350
Australia	2.2915-2.2935	1.3975-1.3985
Brazil	58.5000-58.8800	35.6490-35.8270
Finland	7.1845-7.2205	4.4010-4.4030
Greece	219.15-225.0	133.80-136.30
Hong Kong	12.8010-12.8110	7.8055-7.8065
Iran	116.90*	71.05*
Korea (Sth)	1328.55-1334.60	815.70-822.30
Kuwait	0.45850-0.45950	0.27965-0.27995
Luxembourg	61.10-61.20	37.25-37.35
Malaysia	4.0850-4.1000	2.4910-2.4925
Mexico	2098.85-2111.50	1279.00-1292.00
N. Zealand	2.8210-2.8260	1.7205-1.7225
Saudi Ar.	6.1525-6.1580	3.7505-3.7515
Singapore	3.4630-3.4665	2.1110-2.1120
S. Af. (Cm)	3.2825-3.2980	2.0010-2.0050
S. Af. (Fn)	5.4685-5.5575	3.3335-3.4485
Taiwan	50.80-51.05	31.20-31.30
U.A.E.	6.0245-6.1300	3.6725-3.6735

EMS EUROPEAN CURRENCY UNIT RATES

	Ecu central rates	Currency amounts against Ecu June 8	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc	42.4582	42.9857	+1.24	+0.70	±1.5344
Danish Krone	7.85212	7.80329	−0.62	−1.16	±1.6404
German D-Mark	2.05853	2.07339	+0.72	+0.18	±1.0981
French Franc	6.90403	6.93326	+0.42	−0.12	±1.3674
Dutch Guilder	2.31943	2.33686	+0.75	+0.21	±1.5012
Irish Punt	0.768411	0.774524	+0.80	+0.26	±1.6684
Italian Lira	1483.58	1502.06	+1.25	+1.17	±4.0752

Changes are for Ecu, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

POUND SPOT—FORWARD AGAINST THE POUND

June 8	Day's spread	Close	One month	% p.a.	Three months	% p.a.
US	1.6340-1.6435	1.6385-1.6395	0.26-0.23c pm	1.79	0.64-0.59 pm	1.50
Canada	2.1942-2.2063	2.2010-2.2020	0.13-0.03c pm	0.44	0.20-0.07 pm	0.25
Netherlands	3.31½-3.33¼	3.32¼-3.33¼	1⅛-⅞c pm	3.60	3⅛-2⅞ pm	3.60
Belgium	60.95-61.27	61.10-61.20	13-6c pm	1.86	34-23 pm	1.86
Denmark	11.06¼-11.13¼	11.12¼-11.13¼	¾-1½ore dis	−1.21	3¼-3⅞ dis	−1.26
Ireland	1.0989-1.1049	1.1030-1.1040	0.17-0.26 p dis	−2.34	0.43-0.49 dis	−1.67
W. Germany	2.94¼-2.96¼	2.95¼-2.96¼	2⅛-1⅞pf pm	5.07	3⅞-3½ pm	4.99
Portugal	229.65-230.82	229.70-230.60	61-147c dis	−5.42	285-407 dis	−6.01
Spain	205.14-206.43	205.30-205.70	83-133c dis	−6.31	272-358 dis	−6.13
Italy	2132½-2143¼	2141½-2142½	1-4 lire dis	−1.40	6-11 dis	−1.59
Norway	10.93¾-10.98¼	10.94¾-10.95¾	4¼-5½ ore dis	−5.62	15¼-16¼ dis	−5.73
France	9.85-9.89¾	9.88¾-9.89¾	⅜-⅛ c pm	0.45	½ pm-¼ dis	0.03
Sweden	10.29-10.33	10.30½-10.31½	⅜-½ ore dis	−0.36	1⅞-2½ dis	−0.85
Japan	233¼-235½	234½-235½	1⅛-⅞ y pm	5.11	3⅛-2¾ pm	5.00
Austria	20.68-20.78	20.68-20.71	8¼-7¼ gro pm	4.78	24⅝-22½ pm	4.55
Switzerland	2.44¼-2.46½	2.45½-2.46½	1⅛-⅞ c pm	4.88	3⅛-2⅞ pm	4.88

Belgian rate is for convertible francs. Financial franc 61.25-61.35. Six-month forward dollar 0.98-0.93 c pm. 12-month 1.35-1.25c pm.

DOLLAR SPOT—FORWARD AGAINST THE DOLLAR

June 8	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	1.6340-1.6435	1.6385-1.6395	0.26-0.23c pm	1.79	0.64-0.59 pm	1.50
Ireland†	1.4815-1.4913	1.4820-1.4830	0.55-0.50c pm	4.24	1.45-1.30 pm	3.70
Canada	1.3420-1.3442	1.3420-1.3430	0.14-0.17c dis	−1.38	0.39-0.42 dis	−1.21
Netherlands	2.0220-2.0355	2.0320-2.0330	0.33-0.30c pm	1.87	1.09-1.04 pm	2.10
Belgium	37.21-37.46	37.25-37.35	2pm-1c dis	0.19	6-1 pm	0.43
Denmark	6.78½-6.79¼	6.78¾-6.79¼	1.10-1.80ore dis	−2.57	3.60-4.30 dis	−2.33
W. Germany	1.7935-1.8075	1.8040-1.8050	0.53-0.50pf pm	3.44	1.63-1.58pm	3.57
Portugal	140¼-141¼	140¾-141¼	60-110c dis	−7.24	230-300 dis	−7.53
Spain	125.20-125.90	125.40-125.50	60-110c dis	−8.13	210-260 dis	−7.49
Italy	1300½-1308½	1306¼-1307¼	3.00-4.00lire dis	−3.22	9.00-11.00dis	−3.07
Norway	—	6.68-6.68½	3.95-4.45ore dis	−7.54	12.05-12.55dis	−7.37
France	6.00¼-6.04½	6.03¾-6.03¾	0.65-0.75c dis	−1.40	2.10-2.40 dis	1.50
Sweden	—	6.28¾-6.29¾	0.85-1.15ore dis	−1.91	3.20-3.60 dis	−2.17
Japan	142.35-143.55	143.35-143.45	0.42-0.39y pm	3.40	1.28-1.23 pm	3.51
Austria	—	12.73¼-12.73¾	3.40-3.00gro pm	3.04	10.25-9.25 pm	3.09
Switzerland	1.4875-1.5020	1.5000-1.5010	0.40-0.35c pm	3.02	1.29-1.24 pm	3.39

† UK and Ireland are quoted in US currency. Forward premiums and discounts apply to the US dollar and not to the individual currency. Belgian rate is for convertible francs. Financial franc 37.35-37.45

EURO-CURRENCY INTEREST RATES

June 8	Short term	7 Days notice	One Month	Three Months	Six Months	One Year
Sterling	9¼-9½	9⅜-9⅛	8⅞-9	8¾-8⅞	8¾-8⅞	9-9⅛
U.S. Dollar	6 11/16-6 13/16	6 11/16-6 13/16	7-7⅛	7 5/16-7 7/16	7½-7⅝	7 13/16-8 1/16
Can. Dollar	7¾-8	7⅞-8⅛	7⅞-8⅛	8⅛-8⅜	8½-8⅝	8⅞-9⅛
D. Guilder	5⅛-5¼	5⅛-5¼	5⅛-5¼	5⅛-5¼	5⅛-5¼	5⅛-5¼
Sw. Franc	2-2¼	1¾-2	4 1/16-4 3/16	3⅞-4	3 13/16-3 15/16	3⅞-4
Deutschmark	3½-3⅝	3½-3⅝	3⅝-3¾	3⅝-3¾	3⅝-3¾	3¾-3⅞
Fr. Franc	8-8⅛	8 1/16-8 3/16	8 5/16-8 7/16	8 9/16-8 11/16	8⅝-8⅞	8¾-9
Italian Lire	9-11	9-10	10-10½	10-10½	10¼-10½	10⅝-11
B. Fr. (Fin.)	6⅛-6⅜	6 13/16-6 15/16	6 13/16-6 15/16	6⅞-7	7⅛-7⅜	7⅛-7⅜
B. Fr. (Con.)	6½-6¾	6⅝-6⅞	6¾-7	6½-6⅞	7-7⅛	7⅛-7½
Yen	3 5/16-3 7/16	3 5/16-3 7/16	3¼-3⅜	3¼-3⅜	3 11/16-3 13/16	3⅞-4
D. Krone	9⅞-10⅛	9¾-10¼	10-10½	9⅞-10⅛	9¾-10¼	10¼-10⅝
Asian S Sing	1/16-⅛	N/A	4¼-4⅜	4⅛-4½	4⅜-4⅝	4¼-4⅜

Long-term Eurodollars: Two years 8½-8⅝ per cent; three years 8¾-9 per cent; four years 8⅞-9⅛ per cent; five years 9-9¼ per cent nominal. Short-term rates are call for US Dollars and Japanese Yen; others, two days' notice.

EXCHANGE CROSS RATES

June 8	£	$	DM	YEN	F Fr.	S Fr.	H Fl.	Lira	C $	B Fr.
£	1.	1.639	2.958	235.0	9.893	2.460	3.333	2142.	2.202	61.15
$	0.610	1.	1.805	143.4	6.035	1.501	2.033	1307.	1.343	37.30
DM	0.338	0.554	1.	79.46	3.345	0.832	1.127	724.3	0.744	20.68
YEN	4.255	6.974	12.59	1000.	42.10	10.47	14.18	9115.	9.368	262.2
F Fr.	1.011	1.657	2.990	237.6	10.	2.487	3.369	2165.	2.225	61.81
S Fr.	0.407	0.666	1.202	95.53	4.021	1.	1.355	870.7	0.895	24.86
H Fl.	0.300	0.492	0.887	70.52	2.968	0.738	1.	642.8	0.661	18.35
Lira	0.467	0.765	1.381	109.7	[illegible]	1.148	1.556	1000.	1.028	28.55
C $	0.454	0.744	1.343	106.7	4.494	1.117	1.514	973.0	1.	27.78
B Fr.	1.635	2.680	4.836	384.3	16.18	349023	5.450	3503.	3.600	100.

Yen per 1,000: French Fr per 10: Lira per 1,000: Belgian Fr per 100.

FINANCIAL FUTURES

Prices little changed

TRADING WAS extremely dull and featureless in the London International Financial Futures Exchange yesterday. Sterling based instruments were held in a narrow range ahead of Thursday's general election while US bond and Euro-dollar contracts were ignored, awaiting any outcome of the Venice summit.

Long gilt futures finished slightly up on the day, moving better in the afternoon but held in check by sterling's indifferent performance on the crosses. Dealers were divided in their views as to what would happen on Friday assuming the Conservatives were returned to power. Some suggested that the reaction would be muted unless the majority was slim while others suggested that a victory would herald a rapid influx from overseas into sterling instruments. All were agreed that any other result would prompt a sharp downward reaction.

The September gilt price opened at 126-03 compared with Friday's close of 126-05 and it traded between a low of 125-31 and a high of 126-13 before closing at 126-07.

Three-month sterling deposits acted in much the same way, deriving little inspiration from a static cash market. The September price was confined to a five tick range before closing at 91.30, the same as the opening

US Treasury bonds and three-month Euro-dollars lost ground during the morning but recovered a little during the afternoon as the dollar improved. The better tone was in some way due to news of a partial lifting of US trade sanctions on Japanese goods.

LIFFE LONG GILT FUTURES OPTIONS

Strike Price	Calls—Last Sept	Calls—Last Dec	Puts—Last Sept	Puts—Last Dec
118	8.52	9.41	0.38	1.39
120	7.13	8.13	0.63	2.11
122	5.47	6.58	1.33	2.56
124	4.23	5.47	2.09	3.45
126	3.15	4.45	3.01	4.43
128	2.25	3.52	4.11	5.50
130	1.40	3.02	5.26	7.00
132	1.08	2.25	6.58	8.23

Estimated volume total, Calls 2,613 Puts 610
Previous day's open int: Calls 19,355 Puts 9,930

LIFFE US TREASURY BOND FUTURES OPTIONS

Strike Price	Calls—Last Sept	Calls—Last Dec	Puts—Last Sept	Puts—Last Dec
80	10.02	9.23	0.08	0.25
82	8.12	7.43	0.18	0.45
84	6.30	6.08	0.36	1.10
86	4.59	4.48	1.01	1.50
88	3.38	3.38	1.44	2.40
90	2.22	2.40	2.28	3.42
92	1.27	1.55	3.33	4.57
94	0.54	1.18	4.60	6.20

Estimated volume total, Calls 51 Puts 0
Previous day's open int: Calls 513 Puts 512

LIFFE FT-SE 100 INDEX FUTURES OPTIONS

Strike Price	Calls—Last June	Calls—Last July	Puts—Last June	Puts—Last July
20500	21.26	25.70	1.36	0.80
20750	19.19	23.48	1.79	1.08
21000	17.21	21.33	2.31	1.43
21250	15.33	19.26	2.93	1.86
21500	13.56	17.29	3.66	2.39
21750	11.92	15.42	4.52	3.02
22000	10.39	13.67	5.49	3.77
22250	9.00	12.03	6.60	4.63

Estimated volume total, Calls 4 Puts 25
Previous day's open int: Calls 465 Puts 643

LIFFE £/$ OPTIONS
£25,000 (cents per £1)

Strike Price	Calls—Last June	July	Aug.	Sept.	Puts—Last June	July	Aug.	Sept.
1.45	18.95	—	—	18.95	0.00	—	—	0.08
1.50	13.95	13.95	13.95	13.95	0.00	0.05	0.15	0.33
1.55	8.95	9.03	9.11	9.33	0.00	0.33	0.62	1.01
1.60	3.95	5.00	5.33	5.75	0.07	1.30	1.84	2.43
1.65	0.55	2.20	2.65	3.14	1.67	3.50	4.16	4.82
1.70	0.01	0.78	1.09	1.50	6.13	7.08	7.60	8.18
1.75	0.00	0.20	0.37	0.63	11.12	11.50	11.88	12.31

Estimated volume total, Calls 127 Puts 70
Previous day's open int, Calls 1,267 Puts 2,409

LONDON SE £/$ OPTIONS
£12,500 (cents per £1)

Strike Price	Calls—Last June	July	Aug.	Sept.	Puts—Last June	July	Aug.	Sept.
1.45	12.90	—	—	12.70	0.80	—	—	1.50
1.50	15.40	15.40	—	15.40	0.25	0.25	—	0.50
1.55	12.10	12.10	—	12.30	0.20	0.30	—	0.85
1.60	4.20	5.10	5.55	6.20	0.55	1.40	2.25	2.85
1.65	1.10	2.45	3.00	3.50	1.90	3.40	4.60	5.10
1.70	0.55	1.15	1.50	1.90	6.30	7.05	7.90	8.35
1.75	0.40	0.60	0.70	1.15	11.50	11.70	12.30	12.30

Previous day's open int: Calls 910 Puts 479
Volume: 904

PHILADELPHIA SE £/$ OPTIONS
£12,500 (cents per £1)

Strike Price	Calls—Last June	July	Aug.	Sept.	Puts—Last June	July	Aug.	Sept.
1.600	4.00	4.70	5.20	5.60	0.20	1.15	2.00	2.50
1.625	2.05	3.20	3.70	4.20	0.55	2.05	2.90	3.40
1.650	0.70	2.20	2.60	3.50	1.70	3.20	4.60	4.80
1.675	0.20	1.25	1.75	—	3.50	4.70	5.70	—
1.700	0.05	0.65	1.45	1.60	6.00	6.60	7.50	8.05
1.725	—	0.40	0.75	1.10	8.40	8.60	9.60	10.00
1.750	—	0.10	0.45	—	10.90	11.10	11.70	12.10

Previous day's open int: Calls NA Puts NA
Previous day's volume, Calls NA Puts NA

LIFFE—EURODOLLAR OPTIONS
$1m points of 100%

Strike Price	Calls—Last June	Sept.	Dec.	Mar.	Puts—Last June	Sept.	Dec.	Mar.
92.00	0.78	0.41	0.42	—	0.01	0.26	0.63	—
92.25	0.53	0.29	0.31	—	0.01	0.39	0.77	—
92.50	0.27	0.18	0.22	—	0.00	0.53	0.93	—
92.75	0.06	0.10	0.15	—	0.04	0.70	1.11	—
93.00	0.01	0.05	0.10	—	0.24	0.90	1.31	—
93.25	0.00	0.03	0.06	—	0.48	1.13	1.52	—
93.50	0.00	0.01	0.04	—	0.73	1.36	1.75	—

Previous day's open int: Calls 1,844 Puts 2,140
Estimated volume, Calls 40 Puts 6

LONDON

20-YEAR 12% NOTIONAL GILT
£50,000 32nds of 100%

	Close	High	Low	Prev.
June	126-09	126-09	126-07	126-06
Sept.	126-07	126-13	125-31	126-05
Dec.	126-01	—	—	125-31

Estimated volume 9,737 (19,015)
Previous day's open int. 26,588 (27,383)

10% NOTIONAL SHORT GILT
£100,000 64ths of 100%

	Close	High	Low	Prev.
June	—	—	—	—

Estimated Volume 0 (0)
Previous day's open int. 0 (0)

THREE-MONTH STERLING
£500,000 points of 100%

	Close	High	Low	Prev.
June	[illegible]	[illegible]	[illegible]	91.20
Sept.	[illegible]	[illegible]	[illegible]	91.30
Dec.	[illegible]	[illegible]	[illegible]	91.11
Mar.	[illegible]	[illegible]	[illegible]	90.92
June	[illegible]	[illegible]	[illegible]	90.78
Sept.	[illegible]	[illegible]	[illegible]	90.69

Estimated Volume 1,604 (6,272)
Previous day's open int. 22,662 (22,967)

FT-SE 100 INDEX
£25 per full index point

	Close	High	Low	Prev.
June	[illegible]	[illegible]	[illegible]	225.00
Sept.	[illegible]	[illegible]	[illegible]	229.50

Estimated Volume 466 (1,107)
Previous day's open int. 7,610 (7,418)

THREE-MONTH EURODOLLAR
$1m points of 100%

	Close	High	Low	Prev.
June	[illegible]	[illegible]	[illegible]	92.76
Sept.	[illegible]	[illegible]	[illegible]	92.16
Dec.	[illegible]	[illegible]	[illegible]	91.84
March	[illegible]	[illegible]	[illegible]	91.62
June	[illegible]	[illegible]	[illegible]	91.43
Sept.	[illegible]	[illegible]	[illegible]	91.28
Dec.	[illegible]	[illegible]	[illegible]	91.14
Mar.	[illegible]	[illegible]	[illegible]	91.01

Estimated volume 6,290 (6,034)
Previous day's open int. 33,895 (33,627)

U.S. TREASURY BONDS 8%
$100,000 32nds of 100%

	Close	High	Low	Prev.
June	90-31	91-08	90-27	91-07
Sept.	89-29	90-13	89-16	90-05
Dec.	88-31	—	—	89-07

Estimated Volume 3,622 (5,739)
Previous day's open int. 3,764 (3,540)

CURRENCY FUTURES

POUND—$ (FOREIGN EXCHANGE)

Spot	1-mth.	3-mth.	6-mth.	12-mth.
1.6350	1.6306	1.6329	1.6295	1.6260

IMM—STERLING $s per £

	Latest	High	Low	Prev
June	1.6410	1.6440	1.6370	1.6275
Sept.	1.6360	1.6380	1.6320	1.6225
Dec.	1.6350	1.6350	1.6260	1.6180
Mar.	1.6350	1.6350	—	1.6170

LIFFE—STERLING £25,000 $ per £

	Close	High	Low	Prev
June	1.6388	1.6400	1.6382	1.6302
Sept.	1.6332	1.6347	1.6307	1.6245
Dec.	1.6298	—	—	1.6206

Estimated volume 216 (22)
Previous day's open int 706 (686)

CHICAGO

U.S. TREASURY BONDS (CBT) 8%
$100,000 32nds of 100%

	Latest	High	Low	Prev.
June	91-00	91-04	90-19	91-24
Sept.	89-26	90-02	89-15	90-21
Dec.	88-29	89-03	88-18	89-23
Mar.	88-00	88-00	87-23	88-28
June	—	87-07	87-07	88-04
Sept.	—	—	—	87-14
Dec.	—	—	—	86-26
Mar.	—	—	—	86-09
June	—	—	—	—
Sept.	—	—	—	85-12
Dec.	—	—	—	85-00

U.S. TREASURY BILLS (IMM)
$1m points of 100%

	Latest	High	Low	Prev.
Sept.	93.48	93.49	93.42	93.53
Dec.	93.08	93.13	93.04	93.17
Mar.	92.84	92.84	92.83	92.92
June	—	—	—	94.35
Sept.	92.51	—	92.51	92.59
Dec.	92.37	—	92.37	92.45
Mar.	92.25	—	92.25	92.33
June	92.66	—	92.66	92.74

SWISS FRANC (IMM)
SFr 125,000 $ per SFr

	Latest	High	Low	Prev.
June	0.6699	0.6721	0.6695	0.6638
Sep.	0.6755	0.6780	0.6754	0.6696
Dec.	0.6825	0.6850	0.6815	0.6756
Mar.	—	—	—	0.6825

JAPANESE YEN (IMM)
Y12.5m $ per Y100

	Latest	High	Low	Prev.
June	0.7004	0.7025	0.6999	0.6958
Sept.	0.7066	0.7087	0.7061	0.7017
Dec.	0.7129	0.7146	0.7125	0.7081
Mar.	—	—	—	0.7153
Jun.	0.7286	0.7286	0.7286	0.7233

DEUTSCHE MARK (IMM)
DM125,000 $ per DM

	Latest	High	Low	Prev.
June	0.5563	0.5576	0.5558	0.5507
Sept.	0.5614	0.5626	0.5609	0.5556
Dec.	0.5671	0.5682	0.5671	0.5610
Mar.	—	—	—	0.5665

THREE-MONTH EURODOLLAR (IMM)
$1m points of 100%

	Latest	High	Low	Prev.
June	92.77	92.77	92.71	92.78
Sept.	92.12	92.14	92.07	92.20
Dec.	91.77	91.81	91.73	91.88
Mar.	91.55	91.56	91.50	91.66
June	91.36	91.36	91.33	91.48
Sept.	91.21	91.23	91.17	91.33
Dec.	91.06	91.06	91.03	91.19
Mar.	90.94	90.94	90.89	91.07

STANDARD & POORS 500 INDEX
$500 times index

	Latest	High	Low	Prev.
June	293.90	294.25	291.50	293.10
Sept.	295.80	296.20	293.00	295.00
Dec.	298.20	298.50	295.80	297.20
Mar.	300.10	300.30	298.00	299.20

MONEY MARKETS

UK election keeps rates steady

INTEREST RATES were mostly steady in the London money market. The different reaction to a Conservative win or otherwise at Thursday's general election was so great that many traders were unsure of what position to take. Most seemed confident of a Conservative win in which case the reluctance by discount houses to sell bills outright made sense but the authorities were also aware of their responsibilities to maintain some semblance of order; the latter would be hard to achieve if Mrs Thatcher were not returned as Prime Minister.

UK clearing bank base lending rate 9 per cent since May 8

However the idea of upward pressure on sterling, following a Conservative win and downward pressure on clearing bank base rates was the favourite in most people's minds, hence the reluctance to part with high yielding paper.

Consequently discount houses were obliged to bid up for secured money and the latter touched 9¼ per cent while overnight interbank money opened at 9¾ per cent and eased to a low of 8¾ per cent before coming back to 9¾ per cent. Three-month interbank money was unchanged at 8 13/16-8 11/16 per cent.

The Bank of England forecast a shortage of around £450m with factors affecting the market including the repayment of any late assistance and bills maturing in official hands together with a take up of Treasury bills draining £652m and Exchequer transactions a further £150m. In addition banks brought forward balances £15m below target. These were partly offset by a fall in the note circulation of £350m.

Further help was given in the afternoon of £409m through outright purchases of £5m of local authority bills and £204m of eligible bank bills in band 1 at 8⅞ per cent and in band 2 £65m of Treasury bills and £135m of eligible bank bills, all at 8⅞ per cent.

Late help came to £20m, making a total of £444m.

In New York the US Federal Reserve Bank entered the securities market to arrange $1.5bn of customer repurchase agreements. At the time Fed funds were trading at 6¾ per cent against 6.7 per cent on Friday.

FT LONDON INTERBANK FIXING

(11.00 a.m. June 8) 3 months U.S. dollars		6 months U.S. dollars	
bid 7 5/16	offer 7 7/16	bid 7 9/16	offer 7 11/16

The fixing rates are the arithmetic means, rounded to the nearest one-sixteenth, of the bid and offered rates for $10m quoted by the market to five reference banks at 11.00 a.m. each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Banque Nationale de Paris and Morgan Guaranty Trust.

MONEY RATES

NEW YORK (Lunchtime)

Prime rate	8¼
Broker loan rate	8
Fed. funds	6⅝
Fed funds at intervention	6 11/16

Treasury Bills and Bonds

One month	N/A	Three year	7.93
Two month	N/A	Four year	8.07
Three month	5.87	Five year	8.17
Six month	6.30	Seven year	8.40
One year	6.90	10 year	8.53
Two year	7.76	30 year	8.69

June 8	Overnight	One Month	Two Months	Three Months	Six Months	Lombard Intervention
Frankfurt	3.25-3.45	3.55-3.65	3.60-3.70	3.60-3.75	3.65-3.80	5.0
Paris	7 13/16-8 1/16	8⅛-8¼	8 5/16-8 7/16	8¼-8⅜	8⅝-8½	7¾
Zurich	⅞-1⅛	3⅞-4⅛	—	4-4⅛	—	—
Amsterdam	5 1/16-5 3/16	5⅛-5¼	—	5⅛-5¼	—	—
Tokyo	3.15625	3.65625	—	3.65625	—	—
Milan	10¾-10⅞	10⅞-11⅛	—	10½-11	—	—
Brussels	5.45	6¼-6⅞	—	6⅞-7	—	—
Dublin	11¼-11½	11½-11¾	11⅛-11½	11⅛-11⅜	11⅛-11⅜	—

LONDON MONEY RATES

June 8	Over-night	7 days notice	Month	Three Months	Six Months	One Year
Interbank	9¼-8¾	9½-9	9-8⅞	8 13/16-8 11/16	8 13/16-8 11/16	9⅛-9
Sterling CDs	—	—	8 13/16-8 11/16	8 11/16-8⅝	8 11/16-8⅝	8¾-8 11/16
Local Authority Deposits	—	9⅛	8 13/16	8 11/16	8 13/16	9
Local Authority Bonds	—	—	8 13/16	8 13/16	9⅛	9⅛
Discount M'ket Deposits	9¼-8¾	8⅞	8¾	8½	—	—
Company Deposits	9⅝	9⅝	9	8⅞	8 13/16	9⅛
Finance House Deposits	—	—	9	8⅞	8⅝	—
Treasury Bills (Buy)	—	—	8 13/16	8 9/16	—	—
Bank Bills (Buy)	—	—	8 13/16	8 13/16	8¾	—
Fine Trade Bills (Buy)	—	—	9½	9¼	9	—
Dollar CDs	—	—	7.10-7.05	7.20-7.15	7.45-7.40	8.00-7.95
SDR Linked Deposits	—	—	6⅛-5⅞	6 5/16-5 13/16	6⅛-6⅛	6⅝-6⅜
ECU Linked Deposits	—	—	6⅞-6⅝	6 13/16-6 11/16	7-6⅞	7⅛-7

Treasury Bills (sell); one-month 8¾ per cent; three-months 8½ per cent; Bank Bills (sell): one-month 8 11/16 per cent; three months 8½ per cent; Treasury Bills; Average tender rate of discount 8.3830 p.c. ECGD Fixed Rate Sterling Export Finance. Make up day May 29, 1987. Agreed rates for period June 24 to July 25, 1987, Scheme I: 10.54 p.c., Schemes II & III: 10.12 p.c. Reference rate for period May 1 to May 29, 1987, Scheme IV: 8.873 p.c. Local Authority and Finance Houses seven days' notice, others seven days' fixed. Finance Houses Base Rate 9½ per cent from June 1, 1987: Bank Deposit Rates for sums at seven days' notice 3-3½ per cent. Certificates of Tax Deposit (Series 6); Deposit £100,000 and over held under one month 8 per cent; one-three months 8¼ per cent; three-six months 8⅝ per cent; six-nine months 8¼ per cent; nine-12 months 8⅝ per cent; Under £100,000 6 per cent from June 4. Deposits withdrawn for cash 5 per cent.

Company Notices

HONDA MOTOR CO. LTD.
European Depositary Receipts Issued by
MORGAN-GUARANTY TRUST COMPANY OF NEW YORK

A distribution of $0.41588 per depositary share less any applicable taxes will be payable on and after June 9, 1987 upon presentation of coupon No. 24 at the following offices of Morgan Guaranty Trust Company of New York in:
—Brussels, 35 Avenue des Arts
—New York, 30, West Broadway
Net rate:
$0.3535 (after deduction of 15% Japanese withholding tax plus affidavit)
$0.33271 (after deduction of 20% Japanese withholding tax)

Legal Notices

CATMUR MACHINE TOOL CORPORATION LIMITED

Notice is hereby given that on 2nd June 1987 Timothy Richard Harris and Alan John Barrett of Deloitte Haskins & Sells, 128 Queen Victoria Street, London, EC4P 4JX were appointed Joint Administrative Receivers of the above company (registered number 480343) by Midland Bank Plc, under the powers conferred in debentures dated 6.4.87 and 11.3.81.

T. R. HARRIS and A. J. BARRETT
Joint Administrative Receivers
4.6.87

Clubs

EVE has outlived the others because of a policy of fair play and value for money. Supper from 10-3.30 am. Disco and top musicians, glamorous hostesses, exciting floorshows. 189, Regent St., W1. 01-734 0557.

Art Galleries

COLNAGHI, 14 Old Bond St., W1. 01-491 7408. ENGLISH DRAWINGS AND WATER-COLOURS. Until 13 June. Mon-Fri 10-6, Sats 10-1.

RICHARD GREEN, 44 Dover Street, W1. 01-493 3939. MODERN BRITISH PAINTINGS. Mon-Fri 10-6, Sats 10-12.

CLASSIFIED ADVERTISEMENT RATES

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FINANCIAL TIMES, 10 CANNON STREET, LONDON EC4P 4BY

£ WORLD VALUE OF THE POUND

The table below gives the latest available rate of exchange for the pound against various currencies on June 8, 1987. In some cases rate is nominal. Market rates are the average of buying and selling rates except where they are shown to be otherwise. In some cases market rates have been calculated from those of foreign currencies to which they are tied.

Abbreviations: (A) approximate rate, no direct quotation available; (F) free rate; (P) based on U.S. dollar parities and going sterling-dollar rates; (T) tourist rate; (Bas) basic rate; (bg) buying rate; (Bk) bankers' rate; (cm) commercial rate; (cn) convertible rate; (fn) financial rate; (exC) exchange certificate rate; (nc) non commercial rate; (nom) nominal; (o) official rate; (sg) selling rate; (c) controlled rate.

COUNTRY	CURRENCY	VALUE OF £ STERLING	COUNTRY	CURRENCY	VALUE OF £ STERLING	COUNTRY	CURRENCY	VALUE OF £ STERLING
Afghanistan	Afghani	99.20	Ghana	Cedi	256.85	Panama	Balboa	1.6390
Albania	Lek	10.0785	Gibraltar	Gibraltar £	1.0	Papua New Guinea	Kina	1.4770
Algeria	Dinar	7.5886	Greece	Drachma	221.17	Paraguay	Guarani	(525.12 (10) 1210.24
Andorra	French Franc / Spanish Peseta	9.8925 / 205.45	Greenland	Danish Krone	11.1275	Peru	Inti	(mrc(o)25.52 (F) 39.38 (Fn) 31.92
Angola	Kwanza	49.6245	Grenada	E. Caribbean $	4.43	Philippines	Philippine Peso	32.80
Antigua	E. Caribbean $	4.43	Guadaloupe	Local Franc	9.8925	Pitcairn Islands	£ Sterling / New Zealand $	— / 2.8235
Argentina	Austral	2.6783	Guam	U.S. $	1.6390	[illegible]	[illegible]	[illegible]
Aruba	Florin	2.9502	Guatemala	Quetzal	1.6390 (F) 4.4524	[illegible]	[illegible]	[illegible]
Australia	Australian $	2.2930	Guinea	Franc	557.26	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

§Rate is the transfer market (controlled). ‡‡ Now one official rate. (1) Essential goods. (2) Preferential rate for priority imports such as foodstuffs. (4) Preferential rate for Public Sector Debt and Essential Imports. (5) Preferential rate. (6) Free rate for luxury imports, remittances of money abroad and foreign travel. (7) Parallel rate. (9) Banknote rate. (10) Rate for exports. (14) Nearly all business transactions. (15) Nigeria, Auction price for dollar N/A. (16) Bolivia, New Currency introduced (Boliviano, worth 1m Pesos) Jan 1 1987. (17) Zambia Kwacha, set at 8 Kwacha to the Dollar, May 5 1987.

WORLD MARKETS

FT-ACTUARIES WORLD INDICES

Jointly compiled by the Financial Times, Goldman, Sachs & Co., and Wood Mackenzie & Co. Ltd., in conjunction with the Institute of Actuaries and the Faculty of Actuaries

NATIONAL AND REGIONAL MARKETS	MONDAY JUNE 8 1987					FRIDAY JUNE 5 1987			DOLLAR INDEX		
Figures in parentheses show number of stocks per grouping	US Dollar Index	Day's Change %	Pound Sterling Index	Local Currency Index	Gross Div. Yield	US Dollar Index	Pound Sterling Index	Local Currency Index	1987 High	1987 Low	Year ago (approx)
Australia (94)	133.33	+0.0	120.61	123.97	3.09	133.34	121.20	124.03	140.95	99.92	90.69
Austria (16)	87.74	+0.0	79.36	82.51	2.27	87.70	79.72	82.51	101.62	85.94	84.29
Belgium (47)	116.60	+0.7	105.47	107.54	4.40	115.82	105.28	107.54	123.62	96.19	76.94
Canada (129)	126.61	+0.1	114.52	123.08	2.41	126.42	114.92	122.99	136.17	100.00	97.85
Denmark (39)	118.52	+0.5	107.21	109.45	2.51	117.93	107.20	109.47	124.10	98.18	99.17
France (122)	109.41	+0.5	98.97	103.57	2.65	108.87	98.96	103.57	121.82	98.39	78.89
West Germany (90)	91.21	+0.5	82.51	85.57	2.17	90.76	82.50	85.57	100.33	84.00	82.67
Hong Kong (45)	116.74	+0.1	105.60	117.00	2.88	116.66	106.04	116.92	116.74	96.89	69.74
Ireland (14)	127.62	-0.8	115.44	121.30	3.57	128.69	116.98	122.77	131.86	99.50	82.01
Italy (76)	100.21	+1.0	90.64	97.81	1.83	99.18	90.16	97.26	112.11	94.76	80.31
Japan (458)	155.82	+1.0	140.95	141.25	0.47	154.34	140.29	140.29	161.28	100.00	77.37
Malaysia (36)	171.62	-0.3	155.24	164.69	2.30	172.21	156.54	165.56	172.55	98.24	76.44
Mexico (14)	209.34	+2.0	189.36	294.23	0.75	205.25	186.57	288.02	209.34	99.72	43.46
Netherland (38)	116.49	+0.6	105.37	108.06	4.08	115.80	105.27	107.98	120.14	99.65	88.82
New Zealand (27)	95.54	+0.9	86.43	87.34	3.05	94.69	86.07	86.88	100.59	83.93	68.51
Norway (24)	140.00	+0.6	126.64	126.99	1.97	139.17	126.51	126.99	140.00	100.00	97.16
Singapore (27)	144.47	+0.0	130.68	140.58	1.73	144.43	131.29	140.55	144.47	99.29	71.42
South Africa (61)	158.92	+0.7	143.75	117.79	3.45	157.77	143.41	116.93	186.74	100.00	75.24
Spain (43)	112.72	-0.1	101.96	107.13	3.78	112.80	102.54	108.02	121.31	100.00	82.09
Sweden (33)	113.12	+0.5	102.32	105.33	2.18	112.59	102.35	105.34	124.68	90.85	89.23
Switzerland (51)	93.58	+0.2	84.65	87.05	1.97	93.42	84.92	87.05	104.06	92.53	81.77
United Kingdom (337)	145.54	+0.4	131.65	131.65	3.20	144.91	131.72	131.72	148.66	99.65	97.22
USA (596)	121.53	+1.1	109.94	121.53	2.97	120.26	109.32	120.26	124.06	100.00	100.37
Europe (930)	118.68	+0.5	107.36	109.86	2.89	118.11	107.36	109.86	121.61	99.78	88.03
Pacific Basin (687)	153.50	+0.9	138.85	139.65	0.62	152.12	138.28	138.77	158.30	100.00	77.57
Euro-Pacific (1617)	139.61	+0.8	126.29	127.77	1.39	138.56	125.95	127.24	143.22	100.00	81.70
North America (725)	121.80	+1.0	110.18	121.64	2.94	120.59	109.62	120.43	124.60	100.00	100.24
World Ex. US (1821)	139.40	+0.7	126.10	130.16	1.45	138.38	125.78	130.05	143.09	100.00	82.17
World Ex. UK (2080)	131.12	+0.9	118.61	124.90	1.86	129.95	118.13	124.00	133.33	100.00	88.56
World Ex. So. Af. (2356)	132.24	+0.9	119.62	125.55	1.98	131.11	119.18	124.75	133.85	100.00	89.38
World Ex.-Japan (1959)	121.28	+0.8	109.71	117.65	2.93	120.33	109.38	116.93	121.81	100.00	95.00
The World Index (2417)	132.41	+0.9	119.77	125.52	2.00	131.29	119.34	124.72	134.11	100.00	89.29

Base values: Dec 31, 1986 = 100

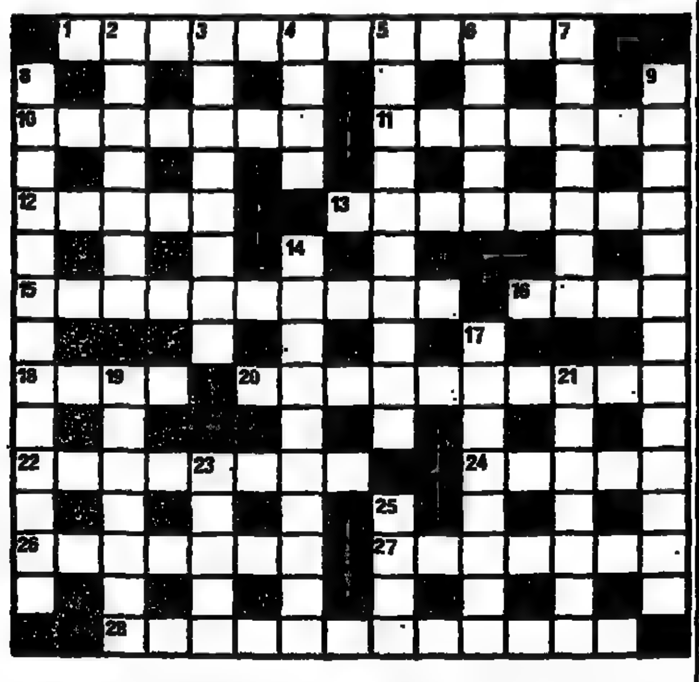
BASE LENDING RATES

	%		%		%
ABN Bank	9	● Charterhouse Bank	9	Nat Bk. of Kuwait	9
Adam & Company	9	Citibank NA	9	NatWestminster	9
Allied Arab Bk Ltd	9	City Merchants Bank	9	Northern Bank Ltd	9
Allied Dunbar & Co	9	Clydesdale Bank	9	Norwich Gen. Trust	9
Allied Irish Bank	9	Comm. Bk. N. East	9	PK Finans. Intl (UK)	10
American Exp. Bk	9	Consolidated Cred	9	Provincial Trust Ltd	10
Amro Bank	9	Co-operative Bank	*9	R. Raphael & Sons	9
Henry Ansbacher	9	Cyprus Popular Bk	9	Roxburghe G'rantee	9½
ANZ Banking Group	9	Duncan Lawrie	9	Royal Bk of Scotland	9
Associates Cap Corp	9	Equat'r'l Tst C'p plc	9	Royal Trust Bank	9
Authority & Co Ltd	9	Exeter Trust Ltd	9½	Smith & Williamson Secs	9
Banco de Bilbao	9	Financial & Gen. Sec	9	Standard Chartered	9
Bank Hapoalim	9	First Nat. Fin. Corp	10	Trustee Savings Bank	9
Bank Leumi (UK)	9	First Nat. Sec. Ltd	10	UDT Mortgage Exp	¶11.1
Bank Credit & Comm	9	● Robert Fleming & Co	9	United Bk of Kuwait	9
Bank of Cyprus	9	Robert Fraser & Ptrs	10	United Mizrahi Bank	9
Bank of Ireland	9	Girobank	9	Unity Trust PLC	9
Bank of India	9	Grindlays Bank	‡9	Westpac Bank Corp	9
Bank of Scotland	9	● Guinness Mahon	9	Whiteaway Laidlaw	9½
Banque Belge Ltd	9	HFC Trust & Savings	9	Yorkshire Bank	9
Barclays Bank	9	● Hambros Bank	9		
Beechmark Tst Ltd	9	Heritable & Gen. Tst	9		
Beneficial Trust Ltd	10	● Hill Samuel	§9		
Berliner Bank AG	9	C. Hoare & Co	9		
Brit. Bk of Mid East	9	Hongkong & Shangh	9		
● Brown Shipley	9	Lloyds Bank	9		
Business Mtge Tst	9	Meghraj & Sons Ltd	9		
CL Bank Nederland	9	Midland Bank	9		
Canada Permanent	9	● Morgan Grenfell	9		
Cayzer Ltd	9	C Mat Credit Corp. Ltd	9		

● Members of the Accepting Houses Committee. * 7-day deposits 4%. Sunwise 6.66%. Top Tier—£2,500+ at 3 months' notice 7.97%. At call when £10,000+ remains deposited. ‡ Call deposits £1,000 and over 4½% gross. ¶ Mortgage base rate. § Demand deposit 3.99%. Mortgage 11.25%.

FT CROSSWORD PUZZLE No. 6,347

CINEPHILE



ACROSS

1 Question of mating between black and white (5,7)
10 A former penny in a new Lloyd's Bank? (3,4)
11 Be entitled to be severed? (7)
12 Sound top of horn in ivory (5)
13 Done in my turn, I was loved by the moon (8)
15 Apostle's girl on holy island line (10)
16 Skip from room, Italian style (4)
18 Observe particularly on your head (4)
20 Overall is trouble, possibly, when I come in (6,4)
22 Identical little boy feels wrong outside (8)
24 Reflector taken by gentleman in France (5)
26 First prayer first—torn it badly (7)
27 Pinch a stitch with nothing in (7)
28 Committed purpose of salver? (4-8)

DOWN

2 Skin round human beings is ugly (7)
3 Go bankrupt before strike—great success! (5,3)
4 French country is profitable (4)
5 Foreign currency, one used in airport as a rule (10)
6 Having a healthy appetite? (5)
7 Mix arms for revolutionary creed (7)
8 Crossword compiler's calculation of pi could be hell (10,3)
9 Check what's said about getting job back (13)
14 Having liberal views, mug can do it wrong (10)
17 Support burst tyre in theatre? (8)
19 Tactful sort of body? (7)
21 Mythical beast makes U turn in grain (7)
23 Clean in discouragement (5)
25 Incentive for branch line (4)

Solution to Puzzle No. 6,346

FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

[illegible]

هكذا من الأصل

FT UNIT TRUST INFORMATION SERVICE

Mercury Fund Managers Ltd (c)
33 King William St, EC4R 9AS — 01-280 2860

American Growth	105.5	111.1	+0.4	1.13
(Accum Units)	110.5	116.9	+0.3	1.13
British Blue Chip Fund	50.1	53.0	+0.0	2.35
(Accum Units)	50.1	53.0	+0.0	2.35
American Sm Cos Fd	49.3	52.1	+0.4	0.47
(Accum Units)	49.3	52.1	+0.4	0.47
American Income	49.9	52.8	-0.1	5.05
(Accum Units)	54.5	57.8	-0.1	5.05
European Growth	135.4	143.2	-0.9	0.84
(Accum Units)	140.2	148.2	-0.9	0.84
European Income	78.9	85.4	-0.3	3.57
(Accum Units)	81.8	85.7	-0.3	3.57
General	350.5	370.8	-0.4	2.10
(Accum Units)	582.1	615.9	-0.6	2.10
Gilt	90.4	90.8	+0.2	7.00
(Accum Units)	107.6	108.1	+0.2	7.00
Global Fund	48.9	51.7	+0.0	0.70
(Accum Units)	48.9	51.7	+0.0	0.70
High Interest Fund	47.3	50.0	-0.1	8.87
(Accum Units)	47.3	50.0	-0.1	8.87
High Income Fund	49.9	52.7	+0.1	4.98
(Accum Units)	50.7	53.6	+0.1	4.98
Income	113.6	120.2	+0.0	3.40
(Accum Units)	130.4	137.9	+0.1	3.40
International	297.0	314.3	+1.8	1.35
(Accum Units)	369.7	391.2	+2.3	1.35
Japan	234.3	247.9	+1.5	0.72
(Accum Units)	240.6	254.5	+1.6	0.72
Pacific Fd	52.8	55.9	-0.1	0.10
(Accum Units)	52.8	55.8	-0.1	0.10
Recovery	286.6	303.2	-0.2	2.18
(Accum Units)	311.6	329.7	-0.2	2.18
UK Smaller Co's Fd	49.6	52.4	+0.1	1.91
(Accum Units)	49.6	52.4	+0.1	1.91
Exempt May 27	344.6	353.4	+16.9	2.19
(Accum Units)	539.8	553.4	+25.6	2.19

Metropolitan Unit Trust Mngrs Ltd
3 Darkes Lane, Potters Bar EN6 1AJ. — 0707 51184

UK Income Fund	57.5	61.1	—	4.91
Accum Units	57.5	61.1	—	4.91
UK Growth Fund Acc	58.7	62.4	—	1.60
Global Income Fund	49.6	52.7	-0.3	3.80
Accum Units	49.6	52.7	-0.3	3.8
Global Growth Fund	47.7	50.7	-0.1	0.49

Midland Bank Group UT Mngrs. Ltd
Courtwood House, Silver St, Head, Sheffield S1 3RD
Tel: 0742 769842

Capital	114.5	121.4	-0.1	1.45
(Accum Units)	157.1	166.7	-0.2	1.45
Commodity & Gen.	177.6	188.4	+1.4	1.49
(Accum Units)	253.5	269.0	+2.2	1.49
European Growth	124.8	132.4	—	1.14
(Accum Units)	150.2	159.4	-0.1	1.14
Extra High Inc	72.1	76.4	+0.1	6.52
(Accum Units)	87.4	92.7	—	6.52
Gilt & Fxd. Int.	56.1	58.5	+0.1	8.88
(Accum Units)	97.8	102.1	+0.2	8.88
High Yield	204.5	216.9	-0.2	4.51
(Accum Units)	361.5	383.6	-0.4	4.51
Income	234.9	249.9	-0.2	2.89
(Accum Units)	395.8	417.8	-0.3	2.89
Int High St. UT	53.7	57.1	+0.1	1.54
Do. Accum	53.7	57.1	+0.1	1.54
Japan and Pacific	376.5	399.1	+4.5	0.18
(Accum Units)	395.5	419.2	+4.6	0.18
Managed Portfolio Acc	65.2	68.9	—	2.40
North American	120.8	128.1	-0.6	1.43
(Accum Units)	145.9	154.9	-0.6	1.43
Smaller Cos.	178.3	189.1	+1.0	1.25
(Accum Units)	191.6	203.3	+1.0	1.25

MIM Britannia Unit Tst Mgrs Ltd (a)(c)(g)
74-78 Finsbury Pavement, London EC2A 1JD
01-588 2777 — Dealing: 01-638 0478/0479

UK Specialist Trusts				
Growth Gilt	64.2	66.1	+0.0	0.37
Smaller Companies	216.9	232.4	+0.7	0.56
Special Features	131.7	140.5	+0.0	0.60
(Accum Units)	138.2	147.4	-0.1	0.60
General Funds				
Assets & Earnings	62.4	66.6	+0.3	1.46
Accum Units	62.4	66.6	+0.3	1.46
Managed Invest Fund	64.5	68.9	-0.1	1.34
UK Growth	51.9	55.4	+0.1	1.10
High Income Funds				
Extra Income	73.8	78.7	+0.0	5.21
Gilt	27.5	28.9	-0.3	8.30
Income & Growth	272.6	290.8	-0.7	3.08
National High Income	254.0	270.9	-1.2	3.47
Preference Shares	19.4	20.7	+0.1	8.79
Sector Specialist Funds				
Commodity Shares	202.2	215.7	-0.8	0.38
Financial Securities	58.5	62.4	+0.0	0.52
Gold	83.9	90.5	+0.0	0.00
Accum Units	87.2	94.0	+0.0	0.00
International Leisure	16.6	17.7	+0.0	0.05
Property Shares	98.4	105.0	-0.5	0.80
Universal Energy	56.6	60.4	-0.5	0.42
World Technology	47.5	50.7	-0.0	0.00
Exempt Funds				
Exempt	114.6	120.0	-0.1	3.46

Prudential Unit Trust Mngrs Ltd (a) (b) (c)
51-69 Ilford Hill, Ilford, Essex IG1 2DL — 01-478 3377
Holborn LinkLine 0800 010595

Holborn Comm Tst.	72.8	77.0	+0.3	0.40
Holborn Equity Income	65.5	69.3	-0.1	3.71
Holborn Equity Tst.	550.2	582.2	-0.9	2.32
Holborn European Tst.	111.2	117.6	+0.1	0.71
Holborn Gilt Tst.	214.4	223.3	+0.4	2.13
Holborn High Inc Tst	81.4	86.1	-0.1	3.01
Holborn Intl Grth Tst.	115.7	122.4	-0.1	0.71
Holborn Japanese Tst.	136.0	143.9	+0.9	0.04
Holborn N. Amer. Tst.	87.0	92.0	-0.6	0.53
Holborn Sm Cos Tst.	71.6	75.7	+0.1	1.54
Holborn Spec Sits Tst.	94.3	99.7	+0.3	1.47
Holborn UK Growth Tst.	110.9	117.3	—	1.60

Quilter Management Co Ltd
31-45 Gresham Street, London EC2 — 01-600 4177

Quadrant Gen. Fd.	625.1	661.5	—	1.66
Quadrant Income	321.4	340.2	—	4.21
Quadrant Intl Fund	428.5	453.5	-1.3	1.11
Quadrant Spec. Sits.	404.9	438.5	—	1.53

Reliance Unit Mgrs. Ltd
Reliance House, Tunbridge Wells, Kent — 0892 510033

British Life	229.6	244.1	—	2.35
Reliance Unit Tst (Inc)	153.3	163.0	-0.2	1.98
Reliance Ut Tst (Acc)	206.3	219.4	-0.2	1.98

Rensburg Fund Managers
Silkhouse Ct., Tithebarn St., Liverpool. — 051-227 2030

Internat. Growth Trust	48.7	51.8	-0.1	1.5

N.M. Rothschild Fund Mgmt
St Swithin's Lane, London EC4 — 01-634 2981/4

NC America (Inc)	309.3	329.0	-1.2	0.83
NC America (Acc)	337.8	359.3	-1.3	0.83
NC Inc Fd.	118.2	125.7	...	0.3
NC Japan Fd.	219.7	233.7	+0.2	—
NC Major UK Cos Fd.	68.2	72.5	-0.1	1.63
NC Smlr Australasian	83.8	89.1	-1.3	0.49
NC Smlr Canadian CoFd.	47.5	50.5	...	—
NC Smaller Cos	217.4	231.2	-0.2	0.97
NC Smaller European	194.6	207.0	-0.3	0.45
NC Prop.*	155.1	164.5	—	—

*Unauthorised Unit Trusts

Rowan Unit Trust Mngt. (a)
33, King William St, London EC4R 9AS — 01-638 5678

Merlin June 6	595.0	609.0	—	1.17

Royal Bank of Canada Fds.
RBC Trust Managers Limited.
1, London Wall, London EC2Y 5JX. — 01-600 6222

RBC Select Grth Acc	74.3	79.0	—	—
RBC Select Income	71.5	76.0	—	—
RBC Select Inc Acc.	73.2	77.8	—	—
RBC Select N. American	50.1	53.2	—	—
RBC Select Intnl.	51.4	54.6	—	—

Royal Life Fd Mgmt Ltd
PO Box 34, Peterborough PE2 0UE. — 0733 230000

Equity Trust	81.9	86.6	-0.2	1.99
International Trust	88.7	93.8	—	0.98
United States Trust	36.5	38.6	-0.2	0.85
Pacific Basin	58.3	61.6	-1.6	0.16
Gilt Trust	27.3	28.5	—	8.61
Equity Grth Accum	248.6	263.1	+0.1	1.13
Equity Growth Dist	175.5	185.8	—	1.13
High Inc Accum	140.5	148.7	-0.2	2.23
High Inc Dist.	116.4	123.2	-0.2	2.23
US Growth Accum	65.2	69.0	-0.4	0.93
US Growth Dist	63.6	67.4	-0.4	0.93

Royal London Unit Tst Mgrs Ltd
Royal Ldn Hse, Colchester CO1 1RA — 0206 576115

American Growth	92.4	98.3	+0.1	0.72
European Growth	48.9	52.1	+0.3	0.96
Gilt Income	60.7	63.9	+0.1	8.10
High Income	108.3	115.3	+0.2	4.48
Income & Growth	130.6	139.0	+0.1	3.97
Intl. Income	62.5	66.5	+0.4	4.51
Japan Growth	131.1	139.5	+1.0	0.03
Special Sits	167.2	177.9	-0.1	0.83
UK Growth	61.8	65.8	-0.1	1.50

Royal Trust Fund Management Ltd
3, Finsbury Sq., EC2A 1RT — 0-638 2493
Unit Dealing 01-638 2531

Capital Fund Mar 31	327.4	348.7	—	1.38
Capital Growth (z)	81.4	87.5	+0.1	1.12
(Accum Units)	93.3	100.3	+0.1	1.12
Equity Income Fund (z)	109.6	117.8	+0.5	3.14
(Accum Units)	263.2	283.0	+1.2	3.14
Finance & Property (z)	110.3	118.6	+1.1	2.36
High Yield (z)	101.3	108.9	+0.2	5.35
(Accum Units)	279.8	300.8	+0.6	5.35
Income Fund Mar 31	252.7	264.6	—	4.06
International (z)	95.4	102.5	—	1.03
(Accum Units) (z)	98.4	105.7	—	1.03
Instl. Exempt* Mar 31	231.01	32.57	—	2.74

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FT UNIT TRUST INFORMATION SERVICE

Yorkshire & Lancashire Investment Mgt.

2 Parsons Lane, Clitheroe, BB7 2JN 0200 25066

Growth & Income (RH)	188.8	198.8	—	—
Ultra Bond (Roy. H)	159.5	167.9	—	—
Flexible Managed (Han)	154.1	162.3	—	—
Global Managed (Schr.)	160.0	168.4	—	—
Security (Scot Mutual)	113.2	119.2	—	—
Pension Fund (Roy. H)	131.6	[illegible]	—	—

OFFSHORE AND OVERSEAS

Actibonds Investment Fund SA

37 rue Notre Dame, Luxembourg Tel: 47971

Actibonds Inv.	$31.71		—	—

Adig Investment

Postfach 708, 8000 Munich 2 Telex 524269

Adiverba	DM23.15	24.42	—	—
Adiverba	DM140.50	147.53	—	—
Fondak	DM60.63	63.66	—	—
Fondis	DM64.61	67.84	—	—

Albany Fund Management Limited

PO Box 73, St Helier, Jersey 0534 73933

Albany $ Fd. (CI)	$396.34	402.10	—	0.74

Next dealing May 12

Albany International Assurance Ltd

St Mary's, Castletown, Isle of Man 0624 823262

Global Sterling Fd	£1.074		—	—
UK Sterling Fd	£1.124		—	—
European Sterling Fd	£0.964		—	—
Japan Sterling Fd	£1.125		—	—
Nth American Sterling	£0.974		—	—
Sterling Fixed Int.	£1.022		—	—

MANAGEMENT SERVICES

FT UNIT TRUST INFORMATION SERVICE

LONDON SHARE SERVICE

BRITISH FUNDS

"Shorts" (Lives up to Five Years)

Stock	Yield Int.	Yield Red.
Treas. 10pc 1987	9.99	8.88
Treas. 3pc 1987	3.01	7.62
Treas. 12pc 1987	11.84	8.33
Treas 7¾pc 1985-88‡‡	7.78	8.45
Exch 10½pc '88	10.33	8.54
Treas 9¾pc Cv '88	9.64	8.58
Transport 3pc '78-88	3.10	6.33
Treas. 9½pc '88	9.41	8.72
Treas 11½pc 1989	11.04	8.77
Treas 9½pc Cnv 1989	9.39	8.77
Treas. 3pc 1989	3.18	6.19
Treas. 10½pc 1989	10.18	8.73
Exch. 10pc 1989	9.77	8.79
Exch 11pc 1989	10.55	8.79
Treas 5pc 1986-89	5.26	7.33
Exch 10¼pcCv '89	9.58	7.04
Treas 13pc 1990‡‡	11.84	8.78
Exch 11pc 1990‡‡	10.46	8.76
Exch. 12½pc 1990	11.47	8.77
Treas. 3pc 1990	3.29	6.40
Treas 8¼pc 1987-90‡‡	8.26	8.31
Treas. 10pcCv 1990	9.66	8.77
Exch 2½pc 1990	2.82	6.16
Treas 11¾pc 1991	10.79	8.80
Funding 5¾pc '87-91‡‡	6.09	7.44
Treas. 3pc 1991	3.40	6.43
Treas 10pc Cv '91 ‡‡	9.18	7.42
Exch. 11pc 1991	10.21	8.80
Treas 12¾pc 1992‡‡	11.14	8.87
Treas 10pc 1992	9.58	8.84
Treas. 8pc 1992 ‡‡£50pd	8.15	8.47
Treas 10½pc Cv 1992‡‡	9.87	8.86

Five to Fifteen Years

Stock	Yield Int.	Yield Red.
Exch. 12¼pc '92	10.80	8.91
Exch 13½pc 1992	11.39	8.99
Treas 10pc 1993‡‡	9.53	8.88
Treas 12½pc 1993‡‡	10.74	8.95
Funding 6pc 1993‡‡	6.39	7.08
Treas 13¾pc 1993‡‡	11.20	9.00
Treas 14½pc 1994‡‡	11.39	8.99
Exch 13½pc 1994 ‡‡	11.03	9.07
Treas. 10pc Ln. 1994	9.46	8.88
Exch. 12½pc 1994	10.62	9.07
Treas 9pc 1994‡‡	8.88	8.74
Treas 12pc 1995	10.36	9.07
Exch 3pc Gas 90-95	3.70	6.05
Exch. 10¼pc 1995	9.59	9.02
Treas 12¾pc 1995‡‡	10.47	8.98
Treas. 14pc '96	10.92	9.18

BRITISH FUNDS—Contd

Index-Linked

INT. BANK AND O'SEAS GOVT STERLING ISSUES

CORPORATION LOANS

COMMONWEALTH & AFRICAN LOANS

LOANS

Building Societies

Public Board and Ind.

Financial

Over Fifteen Years

Undated

FOREIGN BONDS & RAILS

AMERICANS

Stock	Price	+ or −	Div. Gross	C'vr	Y'ld Gr's
NYNEX $1				—	3.2
PHH			$1.04	—	2.7
Pacificorp $3.25			$2.40	—	6.8
Pacific Telesis $0.10				—	6.4
Pall Corp. 25c			34c	—	1.2
Pennzoil 83c			$2.20	—	2.6
Pillsbury‡			$1.00	—	2.5
Quaker Oats $5			80c	—	1.6
RJR Nabisco Inc			$1.60	—	3.1
Rep NY Corpn $5			$1.16	—	2.5
Rockwell Intl. $1			$1.33	—	4.9

Continued on next page

Money Market Bank Accounts

	Gross	Net	Gr Equiv CAR	Int Cr
ANZ Finance High Interest Cheque Acc Minerva Hse, Montague Cl, London, SE1 01-378 2576				
£250-£2,500	7.00			Qtr
£2,500+	9.00	6.77	9.33	Qtr
Adam & Co. plc 22 Charlotte Sq, Edinburgh EH2 4DF 031-225 8484				
Full Service Chr Acc	8.20	6.00	8.49	Qtr
Aitken Hume 30 City Road, EC1Y 2AY. 01-638 6070				
Treasury Acc	8.25	6.21	8.71	Qtr
AAB—Allied Arab Bank Ltd 97-101 Cannon St, London, EC4N 5AD 01-626 2046.				
HICA, HICMA	8.75	6.56	9.30	Mth
Bank of Scotland 38 Threadneedle St, EC2P 2EH. 01-628 8060				
Money Mkt Cheque Acc	8.10	6.09	8.59	Mth
Barclays Prime Account PO Box 125, Northampton 0604 252891				
High Int. Cheque	7.875	6.00	8.40	Qtr
Benchmark Trust Ltd Premier Account 9 Henrietta Place, W1M 9AG. 01-631 3313				
£5,000-£10,000	9.00	6.77		6-mth
£10,001-£20,000	9.25		9.70	6-mth
£20,000+	9.50	7.13	9.97	6-mth
Brown Shipley & Co Ltd Founders Court, Lothbury, London EC2R 7HE 01-606 9833				
Demand Acc	8.50	6.40		Qtr.
Charterhouse Bank Limited 1 Paternoster Row, EC4M 7DH, 01-248 4000				
Sterling	8.25	6.21	8.73	Mth
U.S. Dollar	6.00			Mth
German Mark	3.50			Mth
Swiss Franc	2.50			Mth
Japanese Yen	3.50			Mth
Citibank Savings St Martins Hse, Hammersmith Grove W6 01-741 4941				
Money Market Plus £1,000-£24,999	7.50			Mth
£25,000	8.00	6.30		Mth
Co-operative Bank Cheque & Save 78-80 Cornhill EC3 01-626 6643				
£500-£2,500	5.31	4.00		Qtr
£2,500 +	7.31	5.50	7.39	Qtr
Dartington & Co Ltd Dartington, Totnes, Devon TQ9 6JE 0803 862271				
Money Mkt Acc	8.50	6.40	8.79	Qtr
Henderson/Bank of Scotland 38 Threadneedle St EC2P 2EH 01-628 8060				
Money Mkt. Cheque Acc	8.10	6.09	8.59	Mth
Legal & General (Money Mngrs) Ltd 355 Euston Road, NW1 3AG 01-388 3211				
High Int Dep Acc	8.472	6.375	8.871	6-mth
Lloyds Bank High Interest Cheque Account 71 Lombard St, London EC3P 3BS 01-626 1500				
£1,000-£4,999	6.50		7.69	Qtr
£5,000-£9,999	7.00		8.12	Qtr
£10,000-49,999	7.50	6.20		Qtr
£50,000+	8.00	6.50		Qtr
M & G/Kleinwort Benson M & G Hse., Victoria Rd., Chelmsford 0245 266266				

Money Market Trust Funds

UNIT TRUST NOTES

AMERICANS—Continued

1987 High	Low	Stock	Price £	+ or –	Div Gross	C'vr	Y'ld Gr's
30⅛	22⅞	Sara Lee $1	26½xd	–⅛	$1.00	—	2.3
11⅛	8⅞	Saul (B. F.) $1	9½	+⅛	20c	—	1.3
26¼	19⅞	Southwestern Bell $1	22¼	–⅛	$2.32	—	6.3
17⅝	14¼	Staley Continental	15¾	–½	80c	—	3.1
44⅞	36⅜	Sun Co. Inc. $1	40xd	–⅛	$3.00	—	4.6
37	28½	TRW Inc. $1¼	32½xd	+1⅛	$1.60	—	3.0
31	25⅝	Tenneco $5	28⅞	+⅛	$3.04	—	6.5
187½	149½	Do. 10pcLn.Stk. 91-5	182½xd	.....	10%	—	5.6
28¼	17⅛	Texaco $6.25	23¼xd	+⅛	$3.00	—	7.9
58⅝	47¼	Time Inc. $1	57⅛	–⅛	$1.00	—	1.1
14½	11	Tracor $0.33	12⅝	+⅛	40c	—	1.9
24⅝	18⅞	Transamerica $1	20⅛xd	–⅛	$1.76	—	5.3
11¼	922p	Transworld Corp $5	11¼	–⅛	20c	—	1.1
42⅞	29¾	TRINOVA Corp.	40⅞	–⅛	$1.00	—	1.5
19⅝	15⅛	USX $1	19¼	–⅛	$1.20	—	3.8
18¼	15⅛	Union Carbide $1	17¾	–⅛	$1.50	—	5.2
35⅛	26⅞	Utd. Technologies	28⅛	–⅛	$1.40	—	3.1
38⅝	27	US West	30½	–⅛	$3.28	—	6.6
25	17⅛	Waste Management $1	24⅝	+⅛	—	—	—
£22⅞	£20½	Whirpool $1.0	£22⅞	–⅛	—	—	—
33⅛	26	Woolworth $3½	30⅞	+⅛	$1.32	—	2.6

CANADIANS

1987 High	Low	Stock	Price £	+ or –	Div Gross	C'vr	Y'ld Gr's
20½p	10p	Abbot Energy Corp.	20½p	.....	—	—	—
25¼	10⅛	Amer. Barrick Res.	23	.....	—	—	—
122p	52p	Armeno	100p	+2	—	—	—
19⅝	14⅝	Bk. Montreal	15⅞	–⅛	$2.00	—	6.0
10½	745p	Bk. Nova Scot.	817p	–14	72c	—	4.1
20⅝	16	BCE	19½	.....	$2.40	—	5.7
960p	712p	Bow Valley	857p	–3	40c	—	2.1
19⅝	12⅝	Brascan	15¼	.....	80c	—	2.6
609p	277p	Breakwater Res.	410p	.....	—	—	—
11⅝	894p	Can.Imp.Bk. $2	971pxd	–13	$1.08	—	5.1
12	865p	Can. Pacific	10⅝	.....	48c	—	2.1
42½	37½	Do. 4pc Deb £100	41½xd	.....	4%	—	9.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

BANKS, HP & LEASING

[illegible]

Hire Purchase, Leasing, etc.

[illegible]

BEERS, WINES & SPIRITS

[illegible]

BUILDING, TIMBER, ROADS

[illegible]

BUILDING, TIMBER, ROADS—Cont

[illegible]

CHEMICALS, PLASTICS

[illegible]

DRAPERY AND STORES

[illegible]

DRAPERY AND STORES—Cont.

[illegible]

ELECTRICALS

[illegible]

ENGINEERING

[illegible]

ENGINEERING—Continued

[illegible]

FOOD, GROCERIES, ETC

[illegible]

HOTELS AND CATERERS

[illegible]

INDUSTRIALS (Miscel.)

[illegible]

INDUSTRIALS—Continued

[illegible]

INDUSTRIALS—Continued

[illegible]

INSURANCES

[illegible]

LONDON SHARE SERVICE

INSURANCES—Continued

[illegible]

LEISURE

[illegible]

MOTORS, AIRCRAFT TRADES

Motors and Cycles

[illegible]

Commercial Vehicles

[illegible]

Components

[illegible]

Garages and Distributors

[illegible]

NEWSPAPERS, PUBLISHERS

[illegible]

PAPER, PRINTING, ADVERTISING

[illegible]

PAPER, PRINTING—Continued

[illegible]

PROPERTY

[illegible]

SHIPPING

[illegible]

SHOES AND LEATHER

[illegible]

SOUTH AFRICANS

[illegible]

TEXTILES

[illegible]

TEXTILES—Cont.

[illegible]

TOBACCOS

[illegible]

TRUSTS, FINANCE, LAND

Investment Trusts

[illegible]

FINANCE, LAND—Cont.

[illegible]

Finance, Land, etc

[illegible]

OIL AND GAS

[illegible]

OIL AND GAS—Continued

[illegible]

OVERSEAS TRADERS

[illegible]

PLANTATIONS

Rubbers, Palm Oil

[illegible]

Teas

[illegible]

MINES

Central Rand

[illegible]

Eastern Rand

[illegible]

Far West Rand

[illegible]

O.F.S.

[illegible]

Diamond and Platinum

[illegible]

Central African

[illegible]

Finance

[illegible]

Australians

[illegible]

MINES—Continued

[illegible]

Tins

[illegible]

Miscellaneous

[illegible]

THIRD MARKET

125	110	Allied Ins. Brokers	123	.....	13.5	2.5	4.0	14.3
15½	9	Ardmore Pet. 'A'	14½	.....	—	—	—	—
77	45	Catalyst Comms. 5p	72	−2	—	—	—	—
98	47	Corton Beach 10p	86	+1	0.4	♦	0.6	♦
178	150	Crown Eyeglass 5p	155	−2	—	—	—	—
225	102	Edenspring Investment	225	.....	—	—	—	—
42	29	Eglinton Oil tr.5p	35	.....	—	—	—	—
41	17	Do. Warrants	21	+1	—	—	—	—
59	17	Publishing Hldgs.5p	51	.....	—	—	—	29.5
58	45½	Thame Holdings	46	.....	1.0	♦	3.0	♦
140	111	Unit Group	140	.....	R4.6	2.5	4.5	10.0

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures. P/Es are calculated on "net" distribution basis, earnings per share being computed on profit after taxation and unrelieved ACT where applicable; bracketed figures indicate 10 per cent or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution; this compares gross dividend costs to profit after taxation, excluding exceptional profits/losses but including estimated extent of offsettable ACT. Yields are based on middle prices, are gross, adjusted to ACT of 27 per cent and allow for value of declared distribution and rights.

- ● "Tap Stock".
- * Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- † Interim since increased or resumed.
- ‡ Interim since reduced, passed or deferred.
- ‡‡ Tax-free to non-residents on application.
- ♦ Figures or report awaited.
- ♥ Not officially UK listed; dealings permitted under Rule 535(4)(a).
- ♣ USM; not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- ‡‡ Dealt in under Rule 535(3).
- # Price at time of suspension.
- ¶ Indicated dividend after pending scrip and/or rights issue: cover relates to previous dividend or forecast.
- ♦ Merger bid or reorganisation in progress.
- ♦ Not comparable.
- ♦ Same interim: reduced final and/or reduced earnings indicated.
- ‡ Forecast dividend; cover on earnings updated by latest interim statement.
- ‡ Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.
- ★ Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- ‖ No par value.

B.Fr. Belgian Francs. Fr. French Francs. ¶¶ Yield based on assumption Treasury Bill Rate stays unchanged until maturity of stock. a Annualised dividend. b Figures based on prospectus or other offer estimate. c Cents. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast, or estimated annualised dividend rate, cover based on previous year's earnings. v Subject to local tax. x Dividend cover in excess of 100 times. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. E Minimum tender price. F Dividend and yield based on prospectus or other official estimates for 1986-87. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1986. K Dividend and yield based on prospectus or other official estimates for 1987-88. L Estimated annualised dividend, cover and p/e based on latest annual earnings. M Dividend and yield based on prospectus or other official estimates for 1985-86. N Dividend and yield based on prospectus or other official estimates for 1987. P Figures based on prospectus or other official estimates for 1987. Q Gross. R Forecast annualised dividend, cover and p/e based on prospectus or other official estimates. T Figures assumed. W Pro forma figures. Z Dividend total to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xi ex capital distribution.

REGIONAL & IRISH STOCKS

The following is a selection of Regional and Irish stocks, the latter being quoted in Irish currency.

Albany Inv 20p	78	.....	Fin. 13% 97/02	£111¼	+¼
Craig & Rose £1	£26¼	.....	Arnotts	335	.....
Finlay Pkg. 5p	84	−1	CPI Hldgs	59	+4
Holt (Jos) 25p	450	+5	Carrol Inds.	140	−1
IoM Stm. £1	118	.....	Dublin Gas	18	.....
			Hall (R. & H.)	104	.....
IRISH			Helton Hldgs.	30	.....
Fund 11¾% 1988	£100¼	.....	Irish Ropes	160	.....
Nat. 9¾% 84/89	£98¼	.....	Unidare	305	+40

TRADITIONAL OPTIONS

3-month call rates

Industrials	p		
Allied-Lyons	35	NEI	8
Amstrad	16	Nat West Bk	55
BAT	47	P & O Dfd	55
BOC Grp	42	Plessey	20
BSR	12	Polly Peck	20
BTR	30	Racal Elect	20
Babcock	19	RHM	30
Barclays	47	Rank Org Ord	55
Beecham	48	Reed Intnl	42
Blue Circle	62	STC	28
Boots	25	Sears	12
Bowaters	37	TI	55
Brit Aerospace	58	TSB	8
Brit. Telecom	20	Tesco	42
Burton Ord	23	Thorn EMI	59
Cadburys	22	Trust Houses	20
Charter Cons.	38	Turner Newall	24
Comm Union	29	Unilever	150
Courtaulds	35	Vickers	55
FNFC	20	Wellcome	59
Gen Accident	80	**Property**	
GEC	18	Brit Land	17
Glaxo	110	Land Securities	30
Grand Met	40	MEPC	32
GUS 'A'	100	Peachey	30
Guardian	85	**Oils**	
GKN	30	BOM	3½
Hanson Tst.	15	Brit Petroleum	60
Hawker Sidd	50	Burmah Oil	38
ICI	88	Charterhall	4
Jaguar	52	Premier	4
Ladbroke	40	Shell	75
Legal & Gen.	25	Tricentrol	11
Lex Service	35	Ultramar	17
Lloyds Bank	48	**Mines**	
Lucas Inds	55		
Marks & Spencer	18	Cons Gold	65
Midland Bk	55	Lonrho	24
Morgan Grenfell	35	Rio T Zinc	65

A selection of Options traded is given on the London Stock Exchange Report Page.

LONDON STOCK EXCHANGE

Account Dealing Dates

*First Dealings	Option Declarations	Last Dealings	Account Day
Jun 1	Jun 11	Jun 12	Jun 22
Jun 15	Jun 25	Jun 26	July 6
Jun 29	July 9	July 10	July 20

* New time dealings may take place from 9.00 am two business days earlier.

Government bonds and equities recover early losses to close firmly in thin trade

The UK securities markets made a confident start to a potentially dramatic week, which opens with the Venice Summit and will end with the results of the British General Election. Equities staged a successful rally from some initial nervousness over the latest opinion polls, while Government bonds moved forward in late trading.

The City's attention is focused chiefly on the prospects for re-election of the Thatcher Government. The Venice summit, in contrast, is expected to be "an anti-climax, with no substantive measures," to quote the latest strategy analysis from Chase Manhattan Securities, which is a major market maker in UK bonds and equities.

Markets opened lower after a MORI poll of UK marginal constituencies had run counter to weekend polls, which were largely favourable to the Government's electorial prospects. But there was no selling—the major institutions have now squared their positions ahead of Election Day and the market is left to the professional traders.

The FT-SE 100 index slid down by 14 points before rallying with the gilt-edged sector to close a net 0.4 down at 2,228.4—just seven points off its all-time high. At 1,727.2, the FT Ordinary index was 2.7 down.

Such was the market's preoccupation with the UK election that it paid little heed to announcements of UK retail sales and producer prices, nor to reports that President Reagan may partially lift US sanctions against Japanese products during the Venice meeting.

The international stocks had a firm session, even when the more domestically-orientated issues drifted low in the first half of the day. Glaxo again saw support as investors continued to take the view that foreign buyers will return to the pharmaceutical sector after the Election. BAT Industries, Jaguar, Unilever and Fisons, the last-named again responding to a Nomura recommendation, all closed firmly.

Industrials were helped at the end of the day by a rally in bank shares after a major clearer denied suggestions that the banks planned write-downs of their Third World debts.

Government bonds, which are widely expected to respond dramatically to the outcome of the election, had a thin session, until firmness in the pound encouraged buyers in the final hour. Net losses of ¼ or so were replaced by net gains of a similar amount. At the close, yields at the longer end stood at about 8.8 per cent.

A newspaper report that Lloyds Bank had been sounding out City institutions with a view to writing off a substantial amount against its third world debts triggered a heavy bout of selling pressure in the clearing bank sector. However, a subsequent denial from Lloyds proved equally effective and share prices of the banks picked up strongly during the late afternoon.

Midland Bank were the worst affected of the big four, amid fresh rumours that a rights issue is in the air. Midland shares dipped sharply to 593p before steadying to close a net 26 lower at 604p. Lloyds, sold to 522p early on, were finally quoted at 532p, a net decline of 3. NatWest settled 8 cheaper at 668p, after 657p and Barclays were a like amount off at 537p, after 530p.

TSB, scheduled to announce interim results of June 25 and widely rumoured in the market as a likely bidder for the Hogg Robinson insurance group, eased 1½ to 91p. Hogg Robinson jumped 13 to 502p. Merchant Bank Hill Samuel continued to reflect adverse comment on the recent results and retreated 12 more to 479p while Kleinwort Benson drifted similar amount to 480p. News of the I£53.3m rights issue left Bank of Ireland 10 lower at 228p.

Insurances included a handful of features. Windsor Securities were re-quoted and advanced from an initial 69p to end the day at 84p.

Lacklustre conditions again prevailed among Breweries. The only noteworthy spark of excitement was provided by Buckleys, the Llanelli-based concern which has been subject to considerable speculative attention in the past 12 months or so: the shares advanced 11 to 142p amid strong rumours that Mr Tony Cole's Bestwood, 9 up at 137p, has sold on its 27.5 per cent stake.

Leading Building issues showed small irregular movements although market makers were still able to report a certain amount of selective buying interest. RMC picked up 7 at 975p and BPB Industries firmed 8 to 818p. But Blue Circle slipped 3 to 477p. Secondary issues displayed several bright features with Polypipe rising 12 to 308p in belated response to a broker's circular.

Chemicals gave modest ground owing to a lack of interest. ICI, following Friday's major acquisition, settled ⅛ off at £14½. Allied Colloids shed 4 to 380p ahead of tomorrow's annual results, while Hickson International lost 10 to 680p, despite favourable press mention. Scrappy selling in front of today's preliminary figures left British Benzol 5 down at 129p, but speculative demand in the wake of a £10.6m US disposal helped William Canning rise 5 to 272p, after 276p. Annual profits at the lower end of market estimates upset Amersham International which dipped 21 to 604p.

The leading retailers made minor progress on news of the 3.6 per cent rise in UK retail sales during April, but the slightly firmer tendency failed to hold for the rest of the day.

Aquascutum responded to favourable Press comment and rose 10 to 310p but profit-taking and the absence of any bid news left Ellis and Goldstein 4 cheaper at 111p.

Election worries failed to impact on British Telecom which, responding to a routine flow of domestic buying orders, edged up 5½ to 328p, helped by favourable Press comment.

News of the bid from Apricot Computers lifted Wordplex 8 to 138p; Apricot, also following the return to profits and optimistic statement by the chairman, slipped 4 to 106p.

IBL, a recent poor performer in the light of extrtmely badly-received results, lost a further 3 to 75p, after 71p.

The 12 per cent profits increase stimulated support for Electronic Rentals which rose 4 to 64p, while recent acquisition news continued to boost Arlen, 5 higher at 159p. The sale of the Fraser Glass division for £17m prompted good buying for Emess Lighting, 14 to the good at 44p. News of the bid from FKI left Stone International at 109p while FKI, wwere 6½ up at 165½p.

Mellerware were re-quoted at 110p, compared wwith a pre-suspension level of 80p, followwing the re-financing package.

Sunleigh Electronic edged 1½ to 38½p on news that the bid for Dale Electronic had been defeated. Dale shares wwere 8 lower at 97p.

Strong performers last week, leading Foods lost momentum with Tate and Lyle easing back to close 11 dowwn at 828p. Unigate were a little nervous awaiting today's annual figures and settled 5 off at 415p, but United Biscuits, responding to favourable comment, added 2 to 322p. Hillsdown, still boosted by talk of a broker's bullish circular in the offing, firmed 4 afresh to 297p, while Hazlewood hardened 4 to 350p following satisfactory preliminary figures. The Retailing sector showed ASDA-MFI 4 dowwn at 174p as buying interest dried up. Nurdin and Peacock struggled following the AGM 13 lower at 196p.

Pharmaceuticals again held centre-stage among miscellaneous industrials. Glaxo, in receipt of favourable comment in the weekend press, made fresh progress to settle another ⅛ to the good at £17⅛, as international investors displayed fresh enthusiasm ahead of the proposed listings in Japan and the US later this month. Fisons put on 11 to 372p following further publicity given to a re-rating by Nomura Securities. Beecham, on the other hand, encountered nervous offerings in front of Thursday's preliminary figures and dipped 7 to 544p; Phillips and Drew expect pre-tax profits of around £345m. London International, expected to reveal figures later this month—Greenwell Montagu are going for £26.7m, advanced 13 to 319p after an article highlighting the group's vulnerability to a takeover attempt.

Extel, the sport and financial information group, were unchanged at 473p on news that United Newspapers bid would not incur a reference to the Monopolies Commission: United, 6 up 467p, yesterday claimed control of over 45 per cent of its target.

Dealings in Office and Electronic Machines, suspended last Monday at 231p, resumed and fell to 216p as the company revealed plans for the purchase of BBM, its major distributor and creditor—a move which necessitated the restatement of OEM's results to include a £1.3m provision for bad debts.

Other counters to trade at higher levels after press comment included Burns-Anderson, 208p, Intereurope Technology, 348p, and DSC, 330p up between 14 and 30. A newsletter mention lifted Kalon 5½ to 54p, but the absence of bid developments prompted renewed dullness in Bridon, finally 16½ off at 211p. Welpac, the USM-quoted wholesaler, improved 4½ to 29p, reflecting interest ahead of tomorrow's full-year figures.

Motor Distributors gave a bright performance with Lex Service rising 7 to 433p and Appleyard 8 to 296p. Caffyns, preliminary figures due tomorrow, put on 8 to 398p, while Western Motor advanced 15 to 345p. T. Cowie put on 13 to 603p in response to acquisition news.

The heady advance in Associated Book Publishers continued apace: up 177 last week following a bid approach, the shares put on 58 more to 508p amid persistent talk that a rival bidder could be waiting in the wings. William Collins A rose 12 to 642p in sympathy.

Market researchers Millward Brown rose 12 to 212p in response to the bumper full-year figures, but Yellowhammer, the advertising and sales promotion agency dipped 13 to 179p despite announcing preliminary results at the top end of estimates.

Properties gave ground as buyers held off. Land Securities dipped 9 to 515p while MEPC shed 5 to 462p. Great Portland Estates, preliminary results due tomorrow, gave up 8 at 278p, while British Land shed 4 to 250p. Peachey slipped 4 to 416p, as did Slough Estates, to 265p. Elsewhere, Raglan responded strongly to mention in a tip sheet and gained 7 to 38p; dealers also reported option activity in the stock. Glentree continued higher in a restricted market to close 20 up at 250p, but profit-taking in the wake of the interim figures left Hardanger 10 off at 630p. County Properties were 20 higher at 253p on report of speculative buying, but recent favourite Southend Stadium gave up 13 to 739p.

Investment Trusts saw little activity overall, although a batch of special features kept the marketmakers on their toes. New Court Trust moved up 7 to 800p in continued response to the £38m agreed bid from Smith New Court, the leading market making firm in a move to fund its own growth plans. At this price, New Court Trust is close to its asset value, and the market sees little likelihood of any further development on the bid front. Smith New Court, further responding to good profits, edged higher.

Oil shares drifted lower for most of the session before staging a minor rally on early Wall Street influences. British Petroleum settled 5 cheaper at 356p, while Shell finished ⅛ off at £13⅛. Britoil eased 2 to 279½p, while Enterprise lost 4½ at 254½p. Ultramar continued to attract buyers on asset value considerations and closed 4 dearer at 249p. Profit-taking clipped 8 from Triton at 222p.

With both the Continental and Australian markets shut down for the day, and the Venice Summit meeting poised to begin discussions on the global financial structure, mining shares had a cautious session in London. Turnover was at a low ebb and prices little changed until the end of the session when a firming in the bullion prices inspired a consequent improvement in some gold producer share quotations.

Traded options

Despite the relatively subdued conditions prevailing in the underlying securities, the traded option market enjoyed a busy session with 65,548 contracts transacted. "Election" stocks such as British Telecom and British Gas were to the fore again with the former attracting 9,177 calls and almost 7,000 puts, while Gas recorded 6,626 calls and 4,808 puts. Lively call business was also reported in Hanson Trust and Rolls-Royce which contributed 2,593 and 2,336 trades respectively.

Traditional Options

- First dealings June 8
- Last dealings June 19
- Last declaration Sept 10
- For Settlement Sept 21

For rate indications see end of Unit Trust Service

Included among calls were Sound Diffusion, Burns Anderson, Ennex, Aran Energy, Allied London Properties, Ecobric, Kellock Trust, Bryant Holdings, Bardsey, Raglan Property, Priest (B.), London Investment Trust, British Dredging, Stormguard, Humberside Electronic, Boulton (William), Williams (J.) Cardiff, Kalon, Spargos, Property Trust, Racal Electronics, Publishing Holdings, Glaxo, Bridon, Amber Day, ASDA-MFI, British Gas, Rolls-Royce, BT, Britoil, Astra Holdings, Blacks Leisure, Hughes Food, London International, Vickers, Locker (T.) A, Ladbroke, Brown and Jackson, Sutherland (E. T.), British Airways, Edmond Holdings, British Benzol, Ryan International, Regentcrest, Control Securities, Wellman, Waterford Glass, Kenmare, Greenwich Resources, Ford (Martin), Platignum, Tusker, Fulcrum, Airsprung, Crowther, Fisher (A.), Berkeley and Hay Hill, Gilbert House, Hampton Trust, Trimco, Energy Capital, Ryan Hotels, Williams (Rex), Caparo, Sheafbank, Whim Creek, Western Mining, Meekathara, England (J. E.), Common Brothers. Puts:—BT, Rolls-Royce, Tyson, Wellcome. Doubles:—Kellock Trust, Sound Diffusion, British Airways, British Gas, BT.

FINANCIAL TIMES STOCK INDICES

	June 8	June 5	June 4	June 3	June 2	Year ago	1987 High	1987 Low	Since Compilation High	Since Compilation Low
Government Secs	92.13	92.15	91.81	92.26	92.47	92.21	93.32 (8/5)	84.49 (6/1)	127.4 (9/1/35)	49.18 (3/1/75)
Fixed Interest	97.95	98.01	98.24	98.21	98.33	97.08	98.54 (13/5)	90.23 (2/1)	105.4 (28/11/47)	50.53 (3/1/75)
Ordinary ♥	1727.2	1729.9	1724.6	1739.6	1724.3	1,329.5	1,739.6 (3/6)	1,320.2 (2/1)	1,739.6 (3/6/87)	49.4 (26/6/40)
Gold Mines	395.5	398.3	389.0	389.7	380.2	208.7	485.0 (14/4)	288.2 (19/2)	734.7 (15/2/83)	43.5 (26/10/71)
Ord. Div. Yield	3.29	3.29	3.30	3.28	3.30	4.13				
Earnings Yld.%(full)	7.92	7.92	7.95	7.91	7.95	9.99				
P/E Ratio (net) (*)	15.56	15.57	15.52	15.59	15.45	12.17				
SEAQ Bargains (5 pm)	50,082	39,721	44,836	41,645	47,464	—				
Equity Turnover (£m)	—	1157.06	1379.01	1440.92	1757.66	401.02				
Equity Bargains	—	47,029	52,378	32,755	59,291	23,907				
Shares Traded (ml)	—	502.1	448.9	618.7	719.0	196.9				

S.E. ACTIVITY

Indices	June 5	June 4
Gilt Edged Bargains	120.5	151.3
Equity Bargains	304.7	339.4
Equity Value	2338.7	2787.3
5-Day Average		
Gilt Edged Bargains	133.1	136.1
Equity Bargains	321.2	337.6
Equity Value	3092.1	3317.4

♥ Opening	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1731.3	1728.1	1727.4	1722.3	1723.8	1722.5	1717.2	1721.5

Day's High 1731.4. Day's Low 1716.9. Basis 100 Govt. Secs 15/10/26, Fixed Int. 1928, Ordinary 1/7/35, Gold Mines 12/9/55, SE Activity 1974. *Nil=15.25.

LONDON REPORT AND LATEST SHARE INDEX: TEL. 01-246 8026

NEW HIGHS AND LOWS FOR 1987

NEW HIGHS (151)

BRITISH FUNDS (1), AMERICANS (2), CANADIANS (1), BANKS (3), BREWERS (1), BUILDINGS (11), CHEMICALS (2), STORES (5), ELECTRICALS (9), ENGINEERING (5), FOODS (5), HOTELS (3), INDUSTRIALS (31), INSURANCE (4), LEISURE (1), MOTORS (7), NEWSPAPERS (5), PAPER (8), PROPERTY (4), SHIPPING (2), TEXTILES (1), TOBACCOS (1), TRUSTS (33), OILS (3), OVERSEAS TRADERS (1), PLANTATIONS (2).

NEW LOWS (6)

AMERICANS (1) Image Storage, STORES (1) Cantors, ELECTRICALS (1) Pericom, INDUSTRIALS (1) Magnacard, PAPER (1) Space Planning Servs, TRUSTS (1) India Fund.

TRADING VOLUME IN MAJOR STOCKS

The following is based on trading volume for Alpha securities dealt through the SEAQ system yesterday until 5 pm.

Stock	Volume 000's	Closing price	Day's change	Stock	Volume 000's	Closing price	Day's change
ASDA-MFI	5,400	174	−4	Ladbroke	1,100	422½	−2
Allied Lyons	1,500	424	+3	Land Securities	1,600	515	−9
Amstrad	882	202½	−1	Legal & Gen.	1,800	327	−3
Argyll Group	444	457	−1	Lloyds Bank	1,400	532	−3
Assoc. Brit. Foods	153	393	−6	Lonrho	694	287	—
BAT	2,300	594	+7	MEPC	203	462	−5
BET	305	280	—	Marks & Spncr	2,200	254	+2
BOC	408	467	−1	Midland Bank	2,000	604	−26
BPB Inds	185	818	+8	NatWest Bank	2,100	668	−8
BPCC	469	300	—	Next	2,100	332	−1
BTR	2,400	325	−5	Pearson	258	629	−1
Barclays	1,400	537	−8	P & O	1,200	699	+2
Bass	166	974	−6	Pilkington Bros	918	880	−4
Beecham	1,400	544	−7	Plessey	1,600	204½	−1½
Blue Circle	192	477	−3	Prudential	279	940	+3
Boots	2,050	288	—	Racal	738	251	+1½
Brit. Airways	4,400	159	—	Rank Org	316	717	+3
Brit. Aero	1,200	577	−9	RHM	500	975	+7
Brit. & Comm.	415	444	+6	Reckitt & Col	113	£11⅛	−⅛
Brit. Gas	13,000	185	+3	Redland	739	523	−4
Britoil	2,500	279½	−2	Reed Intl.	707	458	−3
BP	3,700	356	−5	Reuters	243	747	−3
Brit. Telecom	13,000	328	+5	RMC	62	975	+7
Bunzl	371	248	—	RTZ	324	£10⅛	−⅛
Burton	1,000	325	+1	Rolls-Royce	8,000	137	−2
Cable & Wire	739	404	+1	Rowntree Mac	564	531	−2
Cadbury Schwps	1,400	233	−1	Ryl Bank Scotland	839	357	−3
Coats Viyella	838			Royal Insurance	1,200	454	−6
Comm. Union	2,100	322	+4	STC	438	314	−1
Cons. Gold	474	£10⅛	+⅛	Saatchi & Saatchi	1,000	588	−10
Cookson	64	682	+1	Sainsbury	361	534	−1
Courtaulds	1,700	475	−2½	Scott & Newcastle	85	235	−1
Dee Corpn	502	237	−2	Sears	1,100	157	—
Dixons Grp	1,000	391	+5	Sedgwick	203	295	−5
English China Clays	74	494	—	Shell Trans	2,000	£13⅛	−⅛
Fisons	2,500	372	+11	Smith & Nephew	1,800	165½	−2
Gen. Accident	107	954	−1	Standard Chart	47	800	−5
Gen. Elect.	3,600	235	−1	Storehouse	1,500	292	[illegible]
Glaxo	1,500	£17⅛	+⅛	Sun Alliance	182	878	+4
Globe Investment	61	169	+1½	TSB	4,400	91½	−1
Granada	568	343	−2	Tarmac	1,100	575	−4
Grand Met	2,000	552	+6	Tesco	772	552	+2
Gus "A"	105	£13⅛	+⅛	Thorn EMI	387	717	−1
Guardian R.E.	23	930	−3	Trafalgar House	1,000	364	−4
GKN	1,400	335	+1	T'house Forte	1,900	246	+4
Guinness	1,300	364	—	Unigate	398	415	−5
Hanson Trust	9,600	166½	+2	Unilever	539	£31⅛	+⅛
Hawker Sidd	487	918	−3	United Biscuits	4,000	322	+2
Hillsdown Hldgs	3,000	297	−4	Wellcome	420	450	+10
ICI	1,900	£14½	−⅛	Whitbread "A"	227	344	−2
Jaguar	662	534	+3	Woolworth	101	865	+1

RISES AND FALLS YESTERDAY

	Rises	Falls	Same
British Funds	34	33	46
Corporations, Dominion and Foreign Bonds	5	17	39
Industrials	374	547	631
Financial and Properties	116	182	299
Oils	18	35	59
Plantations	3	1	10
Mines	66	59	63
Others	54	101	88
Totals	670	975	1,235

FT-ACTUARIES INDICES

These Indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

EQUITY GROUPS & SUB-SECTIONS — Figures in parentheses show number of stocks per section

		Monday June 8 1987 Index No.	Day's Change %	Est. Earnings Yield% (Max.)	Gross Div. Yield% (ACT at 27%)	Est. P/E Ratio (Net)	xd adj. 1987 to date	Fri June 5 Index No.	Thurs June 4 Index No.	Wed June 3 Index No.	Year ago (approx.) Index No.
1	CAPITAL GOODS (211)	924.99	−0.4	7.40	2.88	17.04	9.24	928.41	922.88	931.78	733.99
2	Building Materials (27)	1205.18	−0.1	7.01	2.80	17.80	9.68	1206.87	1191.58	1203.58	806.57
3	Contracting, Construction (33)	1567.61	+0.3	7.70	3.05	17.43	18.93	1562.93	1554.26	1575.77	1215.18
4	Electricals (13)	2353.26	−0.2	5.67	3.33	23.70	31.62	2356.92	2369.92	2397.22	1970.23
5	Electronics (36)	2075.24	−0.4	7.44	2.14	17.48	12.50	2082.70	2075.11	2111.69	1706.79
6	Mechanical Engineering (59)	494.78	−0.8	8.44	3.50	15.16	7.22	498.96	496.38	501.34	413.60
8	Metals and Metal Forming (7)	509.26	+0.1	7.29	2.98	16.52	5.36	508.86	505.45	505.78	358.24
9	Motors (15)	348.30	—	8.79	3.06	15.12	3.38	348.43	343.48	343.71	302.83
10	Other Industrial Materials (21)	1534.74	−0.8	6.49	3.22	18.58	18.43	1547.52	1545.97	1545.30	1311.09
21	CONSUMER GROUP (185)	1282.41	+0.3	6.16	2.58	20.89	11.30	1278.84	1271.34	1281.87	909.00
22	Brewers and Distillers (22)	1179.17	+0.2	8.02	3.00	15.77	9.97	1176.35	1177.53	1194.48	923.68
25	Food Manufacturing (25)	989.90	−0.2	7.01	3.04	18.57	11.41	991.47	975.65	983.32	669.56
26	Food Retailing (15)	2363.46	−0.6	5.63	2.44	24.28	21.12	2378.51	2378.68	2391.57	1778.47
27	Health and Household Goods (10)	2497.05	+1.3	3.94	1.56	29.74	8.73	2464.91	2454.90	2452.77	1564.36
29	Leisure (31)	1318.67	—	5.84	3.22	22.53	14.78	1318.10	1316.02	1337.31	891.96
31	Packaging & Paper (15)	668.04	+0.3	5.85	2.48	22.27	5.36	665.88	659.09	661.09	472.94
32	Publishing & Printing (14)	3801.23	+0.2	6.27	3.17	20.55	33.22	3792.04	3752.52	3783.35	2512.59
34	Stores (37)	1091.35	+0.4	6.52	2.63	20.84	11.62	1087.17	1079.19	1092.14	870.94
35	Textiles (16)	756.41	−0.7	8.10	2.95	14.33	10.56	761.67	761.91	764.42	536.82
40	OTHER GROUPS (87)	1110.35	+0.5	7.53	3.05	16.62	8.72	1104.97	1093.66	1100.94	787.60
41	Agencies (17)	1491.80	−0.5	4.69	1.71	28.19	9.15	1499.77	1495.46	1502.09	0.0
42	Chemicals (21)	1342.25	−0.7	7.28	3.27	16.85	18.71	1351.94	1356.47	1366.64	877.92
43	Conglomerates (11)	1337.97	+0.5	7.84	3.34	14.58	7.75	1331.75	1328.38	1337.56	0.0
45	Shipping and Transport (11)	2225.38	+0.1	7.05	3.59	17.77	34.71	2222.87	2208.53	2207.57	1535.40
47	Telephone Networks (2)	1245.78	+1.3	7.51	3.01	18.16	1.09	1229.53	1197.50	1210.63	885.86
48	Miscellaneous (25)	1481.13	+1.0	8.88	2.96	13.49	17.65	1466.78	1453.06	1456.81	1036.42
49	INDUSTRIAL GROUP (483)	1156.86	+0.2	6.85	2.79	18.53	10.22	1154.82	1146.62	1155.99	843.92
51	Oil & Gas (17)	2153.55	−0.6	5.08	4.29	25.51	37.10	2167.64	2163.02	2158.45	1214.13
59	500 SHARE INDEX (500)	1241.40	—	6.58	3.01	19.32	12.57	1240.76	1232.88	1241.03	876.80
61	FINANCIAL GROUP (118)	749.66	−0.6	—	3.90	—	12.06	754.32	749.60	760.95	583.86
62	Banks (8)	783.04	−1.2	17.82	4.79	7.42	15.49	792.32	785.44	809.73	603.00
65	Insurance (Life) (9)	1046.00	—	—	4.03	—	20.71	1046.36	1039.80	1042.40	810.21
66	Insurance (Composite) (7)	546.14	−0.1	—	4.48	—	11.76	546.82	545.64	551.15	473.80
67	Insurance (Brokers) (9)	1209.39	−0.6	8.93	4.45	14.39	26.32	1217.22	1215.25	1211.73	1167.81
68	Merchant Banks (11)	386.65	−0.5	—	3.32	—	3.27	388.55	388.15	393.03	354.02
69	Property (46)	1148.80	−1.0	4.00	2.54	32.48	8.86	1160.82	1153.46	1169.04	771.20
70	Other Financial (28)	488.99	+0.4	6.70	3.18	18.83	4.82	486.87	482.07	484.23	347.68
71	Investment Trusts (93)	1033.06	+0.1	—	2.31	—	9.04	1031.63	1028.91	1030.34	751.83
81	Mining Finance (2)	509.05	−0.1	6.01	3.26	19.58	6.79	509.66	508.41	513.37	279.36
91	Overseas Traders (11)	1045.59	−0.2	8.46	4.44	14.10	22.64	1047.33	1040.98	1071.27	672.57
99	ALL-SHARE INDEX (724)	1109.39	—	—	3.13	—	12.28	1109.93	1103.11	1111.82	792.95

	Index No.	Day's Change	Day's High	Day's Low	June 5	June 4	June 3	June 2	June 1	Year ago
FT-SE 100 SHARE INDEX ♦	2228.4	−0.4	2230.4	2214.4	2228.8	2214.2	2235.4	2219.6	2228.2	1604.6

FIXED INTEREST

	PRICE INDICES	Mon June 8	Day's change %	Fri June 5	xd adj. today	xd adj. 1987 to date
	British Government					
1	5 years	124.27	+0.04	124.48	0.26	5.28
2	5-15 years	145.75	+0.10	146.13	0.52	5.56
3	Over 15 years	156.88	+0.18	156.64	0.05	5.21
4	Irredeemables	169.93	+0.13	169.71	—	6.30
5	All stocks	141.59	+0.10	141.81	0.35	5.46
	Index-Linked					
6	5 years	122.87	−0.17	123.08	—	0.83
7	Over 5 years	119.23	+0.05	119.17	—	1.17
8	All stocks	119.34	+0.03	119.30	—	1.13
9	Debentures & Loans	124.58	+0.03	124.54	—	5.65
10	Preference	89.40	+0.08	89.33	—	2.87

	AVERAGE GROSS REDEMPTION YIELDS		Mon June 8	Fri June 5	Year ago (approx.)
	British Government				
1	Low Coupons	5 years	7.90	7.89	7.53
2		15 years	8.70	8.71	8.75
3		25 years	8.71	8.72	8.78
4	Medium Coupons	5 years	8.77	8.79	8.84
5		15 years	8.93	8.95	9.08
6		25 years	8.93	8.95	9.10
7	High Coupons	5 years	8.98	8.99	8.97
8		15 years	9.06	9.08	9.22
9		25 years	8.85	8.88	9.14
10	Irredeemables †		8.79	8.80	8.72
	Index-Linked				
11	Inflat'n rate 5%	5 yrs	2.33	2.28	3.76
12	Inflat'n rate 5%	Over 5 yrs	3.59	3.59	3.31
13	Inflat'n rate 10%	5 yrs	1.93	1.87	2.63
14	Inflat'n rate 10%	Over 5 yrs	3.50	3.51	3.16
15	Debs & Loans	5 years	9.59	9.61	10.11
16		15 years	9.95	9.95	10.009
17		25 years	10.03	10.03	10.06
18	Preference †		10.14	10.15	10.30

♦Opening index 2230.4, 10 am 2227.0; 11 am 2225.7; Noon 2219.6; 1 pm 2222.3; 2 pm 2221.4; 3 pm 2214.9; 3.30 pm 2216.4; 4 pm 2221.0

† Flat yield. Highs and lows record, base dates, values and constituent changes are published in Saturday issues. A new list of constituents is available from the Publishers, the Financial Times, Bracken House, Cannon Street, London EC4P 4BY, price 15p, by post 32p.

CONSTITUENT CHANGES: River & Mercantile Trust (71) and Stockley (69) have both been deleted and replaced by Kellock Trust (70) and Priest, Marians Holdings (69).

LONDON TRADED OPTIONS

Option		Calls July	Calls Oct.	Calls Jan.	Puts July	Puts Oct.	Puts Jan.
Allied Lyons (*423)	390	44	59	68	8	12	18
	420	25	40	50	17	24	29
	460	10	22	32	47	51	55
Brit. Airways (*158)	140	23½	30	42	6½	10	12
	160	11	21	30	14	19	22
	180	6	15	23	27	31	33
British Gas (*182)	155	33	41	48	6	9½	12
	165	26	35	42	9½	14	17
	180	18	27	34	16½	22	26
B.P. (*355)	317	49	59	—	4	14	—
	330	41	49	60	10	18	24
	360	23	34	47	24	31	37
Britoil (*278)	220	64	70	78	2	4	7
	240	46	56	64	5	10	14
	260	36	45	55	12	17	22
	280	25	37	46	20	25	30
	300	17	29	37	32	39	45
Cons. Gold (*1059)	950	142	162	192	18	34	44
	1000	112	135	160	40	50	64
	1050	87	112	135	63	75	85
	1100	67	92	122	90	97	112
Courtaulds (*475)	390	92	104	118	2	5	10
	420	64	80	96	5	13	18
	460	34	52	70	16	24	32
	500	18	34	48	40	44	54
Com. Union (*321)	300	30	42	50	5	10	13
	330	13	27	36	15	23	26
	360	6	14	19	41	45	48
Cable & Wire (*403)	360	53	70	78	7	18	23
	390	33	48	62	17	27	38
	420	16	32	42	33	50	55
G.E.C. (*233)	200	37	45	54	2	7	10
	220	24	30	40	7	13	16
	240	14	20	26	18	22	27
Grand Met. (*548)	500	60	72	87	6	13	18
	550	25	42	55	27	33	37
	600	7	20	33	57	65	68
I.C.I. (*1439)	1350	128	160	202	20	45	58
	1400	95	130	172	33	63	75
	1450	65	103	145	58	85	96
	1500	42	80	122	87	113	120
Land Securities (*516)	460	65	77	93	7	10	17
	500	40	52	67	22	28	33
	550	15	28	38	45	50	58
Marks & Spen. (*252)	220	36	45	52	4	7	10
	240	22	32	37	8	14	18
	260	10	18	26	19	22	26
Rolls-Royce (*137)	120	22	29	36	2	4	7
	130	16	24	30	5	9	13
	140	11	17½	26	11½	16	19
	160	5	11	17	26	30	33
Shell Trans. (*1306)	1250	97	140	168	23	35	48
	1300	72	115	142	48	60	73
	1350	52	85	117	78	93	103
	1400	30	60	95	112	122	132
Trafalgar House (*363)	300	68	77	88	2	4	6
	330	43	52	62	4	10	15
	360	22	34	46	14	21	27
	390	9	17	28	32	38	46
TSB (*91)	70	23	25½	—	1	1½	—
	80	15	17	21	2	3	4
	90	7	10½	15½	4½	6½	8
Woolworth (*861)	800	80	110	135	13	30	40
	850	60	80	110	35	50	60
	900	32	55	80	70	80	90

Option		Calls June	Calls Oct	Calls Jan	Puts June	Puts Oct	Puts Jan
Bass (*974)	900	87	115	130	6	17	27
	950	50	80	98	20	35	50
	1000	20	53	68	50	65	80
GKN (*332)	300	34	48	55	4	12	15
	330	13	32	40	12	25	29
	360	4	16	27	31	39	43
Jaguar (*534)	500	35	68	85	4	22	30
	550	12	38	62	30	45	55
	600	2	22	40	70	77	85

Option		Calls Aug	Calls Dec	Calls Mar	Puts Aug	Puts Dec	Puts Mar
Barclays (*532)	500	50	70	87	12	22	30
	550	30	40	60	35	45	52
	600	12	20	35	72	80	87
Midland Bk (*595)	600	38	57	80	35	45	50
	650	23	37	52	72	75	80
	700	11	20	—	112	115	—

Option		Calls Aug	Calls Nov	Calls Feb	Puts Aug	Puts Nov	Puts Feb
Brit Aero (*575)	550	53	—	—	20	—	—
	600	30	47	73	43	55	67
	650	15	28	50	80	93	100
BAT Inds (*592)	500	107	118	135	4	8	13
	550	65	82	95	12	20	23
	600	37	52	67	30	38	42
Brit. Telecom (*326)	280	58	67	76	9½	14	19
	300	44	53	62	17	22	28
	330	24½	36	44	27	34	38
Cadbury Schweppes (*253)	220	41	45	—	4	6	—
	240	25	32	43	10	15	17
	260	15	23	33	19	24	29
Guinness (*363)	280	92	100	—	1½	2	—
	300	72	82	—	3	6	—
	330	46	60	70	6	15	17
	360	26	42	52	20	25	32
Ladbroke (*422)	403	40	50	—	15	20	—
	420	—	—	50	—	—	30
	443	20	30	—	33	35	—
LASMO (*263)	220	52	60	—	3	11	—
	240	42	51	60	8	16	24
	260	30	44	52	18	27	36
	280	22	33	—	34	40	—
P. & O. (*699)	600	110	120	—	4	8	—
	650	63	78	97	13	22	30
	700	35	50	65	35	45	55
Plessey (*204)	200	22	28	35	13	17	19
	220	13	19	26	25	28	31
	240	7	13	—	38	42	—
Racal (*250)	200	53	—	—	2	—	—
	220	37	44	—	6	8	—
	240	25	33	42	13	16	20
	260	16	23	31	25	30	34
R.T.Z. (*1009)	950	110	154	182	22	35	50
	1000	92	130	160	44	57	72
	1050	67	107	130	74	85	100
	1100	45	87	—	105	112	—
Vaal Reefs (*$124)	110	21½	25	29½	5½	9	12½
	120	17	20½	25	8½	12½	16½
	130	11	16½	20½	14½	18½	22
Tr. 11¾% 1991 (*£109)	106	[illegible]	[illegible]	—	[illegible]	[illegible]	—
	108	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	110	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	112	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5
Tr. 11¾% 03/07 (*£124)	122	[illegible]	[illegible]	—	[illegible]	[illegible]	—
	124	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]
	126	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	128	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Option		Calls Jun	Calls Sep	Calls Dec	Puts Jun	Puts Sep	Puts Dec
Amstrad (*203)	180	26	37	46	4	11	13
	200	14	24	35	10	18	22
	220	5	16	27	21	29	33
Beecham (*542)	460	85	95	108	2	4	15
	500	47	67	80	7	20	28
	550	17	41	58	27	40	50
	600	4	20	35	68	72	80
Boots (*287)	260	30	41	50	3	8	13
	280	17	30	38	9	17	23
	300	8	18	27	20	28	33
BTR (*323)	280	48	58	60	1	4	7
	300	28	42	45	3	9	13
	330	9	23	30	15	26	27
	360	3	12	19	40	42	43
Blue Circle (*475)	400	80	95	110	1	4	7
	425	55	73	87	1½	7	13
	450	38	50	65	7	18	25
	475	20	32	50	20	30	42
De Beers (*1150)	1100	105	190	225	60	75	105
	1200	50	150	210	120	140	160
	1300	25	100	160	200	220	240
Dixons (*389)	360	—	—	62	—	—	16½
	381	17	34	—	11	20	—
	390	—	—	42	—	—	28
	420	3	18	30	36	42	48
Glaxo (*1698)	1500	210	275	305	9	35	57
	1550	170	240	275	14	47	72
	1600	125	205	245	28	62	90
	1650	85	175	215	40	80	110
	1700	58	140	185	55	105	135
Hanson (*164)	150	15	22	—	2	5	—
	160	—	—	21	—	—	11
	165	5	12½	—	7½	11	—
	180	1	6½	11½	18½	20½	22
Lonrho (*287)	255	37	42	48	3	6	9
	273	21	30	39	6	12	16
	300	6	18	24	18	23	26
Sears (*157)	140	18	24	27	1½	4½	6
	160	4	13	16	6½	10½	13½
	180	1¼	6	9	24	24½	28
Tesco (*550)	460	95	107	120	1½	5	9
	500	57	77	90	4	13	20
	550	20	50	65	22	33	40
Thorn EMI (*718)	600	122	127	148	0½	6	10
	650	72	82	104	3	13	20
	700	35	50	72	11	27	35
	750	12	27	45	38	53	62
Trusthouse Forte (*246)	220	28	37	46	2½	6½	9
	240	13	24	33	6	14	16
	260	4	14	23	19	23	25

Option		Calls June	Calls July	Calls Aug	Calls Sept	Puts June	Puts July	Puts Aug	Puts Sept
FT-SE Index (*2218)	2050	223	237	255	—	30	45	55	—
	2100	183	198	215	—	43	60	70	—
	2150	145	165	185	210	60	75	85	95
	2200	108	130	195	180	78	92	[illegible]	110
	2250	78	105	127	150	[illegible]	117	128	130
	2300	50	80	100	120	115	137	145	150

June 8. Total Contracts 65,548. Calls 37,875 Puts 27,673. FT-SE Index Calls 845 Puts 5,808. *Underlying security price.

LONDON RECENT ISSUES

EQUITIES

Issue Price p	Amount Paid up	Latest Renunc. Date	1987 High	1987 Low	Stock	Closing Price	+ or −	Net Div.	Times Cov'd	Gross Yield	P.E. Ratio
§132	F.P.	—	177	155	B.O.A. Hldgs. 10p	166	.....	L2.5	3.70	2.1	18.2
§77	F.P.	—	112	90	Barrett (Henry) 10p	109	−2	R2.81	2.2	3.5	17.3
§77	F.P.	30/6	107	96	♣Bonded Laminates 10p	105	.....	L2.4	2.4	3.1	18.4
§115	F.P.	8/5	172	153	Brooks Service Group	162	.....	L3.8	2.2	3.1	17.8
‖	F.P.	—	440	400	Calor Group 50p	416	−7	U12.0	2.6	3.9	13.2
130	F.P.	8/5	135	128	Cambridge Instru. 5p	130	.....	R0.7	8.8	0.7	14.8
§55	F.P.	12/6	98	66	♣Cambridge Isotope	84	.....	R20.9	—	0.66	—
§185	F.P.	6/7	242	210	Chemoxy Intl.	240	.....	L4.9	2.7	2.8	16.9
—	F.P.	—	15	10	ChildHealthRes.Wrts	15	.....	—	—	—	—
§125	F.P.	—	185	145	♣Colorgraphic 10p	171	−4	L3.0	2.8	2.4	19.9
§230	F.P.	10/7	296	278	Computer People 5p	287	−3	u3.6	3.2	1.7	25.1
‖	F.P.	—	310	280	Contibel 50p	280	−2	u8.0	1.6	3.9	21.2
§56	F.P.	—	82	75	♣de Morgan 5p	75	−3	R1.0	4.3	1.8	17.6
§135	F.P.	29/5	180	158	Doeflex 10p	178	+2	L3.45	2.50	2.6	20.5
§76	F.P.	19/6	99	76	♣GC Floor & Furn's	86	.....	L1.95	2.8	3.15	15.8
§170	F.P.	—	198	188	HambrosAdv.TechTst	196	.....	—	—	—	—
§120	F.P.	29/5	127	120	♣March Group 5p	122	.....	L4.2	2.4	4.6	12.1
§130	F.P.	—	170	163	Neotronics 5p	170	.....	R1.8	4.2	1.4	22.5
—	F.P.	—	120	80	OriflameIntWarrants	120	.....	—	—	—	—
125	F.P.	—	190	180	Pickwick	186	.....	R2.5	3.1	1.8	24.5
§83	F.P.	—	97	88	Practical Invs.	96½	.....	—	—	—	—
§55	F.P.	3/6	105	64	♣RKF Group 10p	101	−1	u2.19	2.4	3.0	17.5
¶¶	F.P.	—	99	94	River&MercCap12½p	98	.....	—	—	—	—
¶¶	F.P.	—	103	100	Do. Inc. 12½p	100	.....	H5.67	—	7.8	—
¶¶	F.P.	—	23	18	Do. Wts. 12½	23	.....	—	—	—	—
¶¶	F.P.	—	102	98	Do. Stepped Prf 12½p	101½	.....	H4.20	—	5.7	—
170	85	23/9	154	128½	Rolls-Royce 20p	137	−2	W4.99	2.7	3.1	13.5
§135	F.P.	—	238	163	♣Select Appts. 5p	232	+2	L2.5	2.8	1.5	33.2
§125	F.P.	19/6	200	155	♣Sharp & Law 10p	200	+15	u3.0	2.4	2.0	27.4
§92	F.P.	—	100	96	♣Shoraipton 5p	98	.....	u1.6	3.6	2.2	17.2
¶¶	F.P.	—	155	135	Smith Doctus 5p	135	.....	0.25	—	2.54	—
125	F.P.	19/7	265	224	♣Sock Shop Intl. 5p	245	−10	R1.35	3.8	7.5	47.4
§125	F.P.	2/6	165	158	♣UCL Group 5p	162	+4	u2.5	2.8	2.1	22.8
‖‖	F.P.	—	85	70	Utd. Plants. Africa R0.5	79	−4	Q7.5c	3.70	2.9	9.1
135	F.P.	—	170	160	Webmiller (Barry) Intl. 5p	[illegible]	−7	R4.0	2.9	3.4	11.3

FIXED INTEREST STOCKS

Issue Price £	Amount Paid up	Latest Renunc. Date	1987 High	1987 Low	Stock	Closing Price £	+ or −
§100	F.P.	—	122p	111p	Barkam Grp. Cnv. Red. Prf. 10p	122p	+2
—	F.P.	—	115	105	Burndene Invs. 15% Uns.Ln. 2007-12	105	.....
§95.982	£25	30/11	27⅛	25⅛	Cap & Counties 9⅞% 1st Mt. Db 2027	26⅛	+⅛
§99.239	F.P.	—	99⅛	98⅛	Dares Est. 10⅛% 1st Mt. Deb. 2012	98⅛	.....
¶¶	F.P.	—	125	113	♣Ecobric 12½% Cnv. Uns. Ln. 1988/90	125	.....
—	F.P.	29/5	111¼	109	Ests.&GenInv.new11¼%1stMt.Deb2018	111¼	.....
—	F.P.	—	109p	96½p	Friendly Hotels 4½% Cnv Cum Red Prf £1	109p	+7
¶¶	F.P.	—	125½p	108p	♣Gibbons Lyons 7% Cnv Cum Red Pf. (£1)	108p	.....
—	£25	28/8	26½	23⅛	Gt. Portland Ests. 9½% 1st Mt. Db 2016	23⅛	−⅛
—	F.P.	—	101	99⅞	Nationwide 8⅞pc 23.5.88	100	.....
‖	Nil	—	27pm	24pm	Noble & Lund 8pc CnvCumRedPrf(£1)	24pm	.....
—	£25	11/11	25½	23	North Housing Assoc. 8¼% Gtd.ln.2037	23⅛	.....
—	F.P.	7/7	298p	240p	Do. Zero Cpn. Ln. 2027	298p	+3
§95.221	£25	2/10	26	23½	Peachey Property 9⅞% 1st Mt.Deb.2015	24⅛	−⅛
§100	F.P.	—	126p	109p	Peel Hldgs. 5¼pc Cnv. N/V Prf. £1	126p	+2
—	£40	12/8	40½	38⅛	Do. 9⅞pc 1st Mt. Deb. 2011	40⅛	+½
‖	F.P.	31/7	146	128	Priest Marians 6½pc.Cnv.Uns.Ln 2000/03	131	.....
§—	F.P.	—	104½p	101p	Prowting 8.3% Cum. Red. Prf 2002 (£1)	104½	+1½
§—	F.P.	—	174p	172p	Do. 13½% Cum. Prf. (£1)	172p	−2
§98.221	£25	9/10	26⅛	24	Scot. Eastern Inv.Tst. 9⅞% Deb 2020	24	.....
§98.105	F.P.	10/7	99⅛	99⅛	Tr Ind & Gen Tst. 10% Deb 2016	99⅛	+⅛
—	F.P.	—	127	115	Wickes 5½% Sub. Cnv. Un. Ln.	127	.....

"RIGHTS" OFFERS

Issue Price p	Amount Paid up	Latest Renunc. Date	1987 High	1987 Low	Stock	Closing Price p	+ or −
210	Nil	—	45pm	42pm	Arlington Securities 10p	43pm	.....
¶¶	Nil	19/6	625pm	330pm	Braithwaite £1	330pm	−25
625cts	Nil	19/6	130pm	80pm	Cons Murchison	80pm	.....
25	Nil	24/7	18pm	16pm	Epicure Hldgs. 5p	16pm	.....
250	Nil	—	100pm	85pm	♣FKB Group 5p	85pm	.....
8	Nil	29/5	68pm	45pm	Inv. in Success Wrts.	60pm	−8
397	Nil	—	35pm	15pm	♣KLP Group 5p	15pm	−5
265	Nil	15/7	114pm	84pm	Kennedy Brookes 10p	114pm	+4
110	Nil	9/6	20pm	15pm	Phoenix Timber	27pm	.....
180	Nil	—	75pm	65pm	Quick (H. & J.) 10p	70pm	−5
21	Nil	17/7	9½pm	7pm	Rock 10p	8½pm	+½
345	Nil	—	75pm	63pm	♣Tay Homes	63pm	.....
575	Nil	24/7	76pm	67pm	WCRS Grp. 10p	73pm	−3

Renunciation date usually last day for dealing free of stamp duty. a Annualised dividend. b Figures based on prospectus estimates. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. F Dividend and yield based on prospectus or other official estimates for 1986/7. H Dividend and Yield based on prospectus or other official estimates for 1987. L Estimated annualised dividend, cover and p/e based on latest annual earnings. R Forecast annualised dividend, cover and p/e ratio based on prospectus or other official estimates. W Pro Forma Figures. t Indicated dividends; cover relates to previous dividend; p/e ratio based on latest annual earnings. u Forecast, or estimated annualised dividend rate, cover based on previous year's earnings. ¶ Issued by tender. ‖ Offered holders of ordinary shares as a "rights." ‖‖ Introduction. ** Issued by way of capitalisation. § Placing price. §§ Reintroduced. ¶¶ Issued in connection with reorganisation merger or takeover. ■ Allotment price. ♣ Unlisted securities market. †† Official London listing. ‡‡ Including warrants entitlement. ‡ Placing and offer for sale price.

WORLD STOCK MARKETS

AUSTRIA

June 5	Price Sch%	+ or −
Creditanstalt	1910	......
Goesser	2550	......
Interunfall	11900	......
Jungbunzlauer	7650	......
Laenderbank	1747	......
Perimooser	683	......
Steyr-Daimler	132	......
Veitscher Mag	730	......

BELGIUM/LUXEMBOURG

June 5	Price Frs.	+ or −
B.B.L.	3200	......
Banque Gen. Du. L.	15300	......
Bank Int. A	14300	......
Bekaert B	10350	......
Ciment CBR	5010	......
Cockerill	162	......
Delhaize	3050	......
EBES	4810	......
Fabrique Nat	1715	......
GB Inno BM	1050	......
GBL (Brux) L	3745	......
Generale Bank	6200	......
Gevaert	6610	......
Hoboken	7120	......
Intercom	3850	......
Kredietbank	4350	......
Pan Holdings	12400	......
Petrofina	11175	......
Royale Belge	5690	......
Soc Gen Belge	3440	......
Sofina	13850	......
Solvay	12450	......
Stanwick Intl.	450	......
Tractebel	7060	......
UCB	9700	......
Wagons Lits	5200	......

DENMARK

June 4	Price Kr %	+ or −
Baltica Skand	965	......
Cop Handelsbank	276	......
D. Sukkerfab	335	......
Den Danske Bank	349	......
East Asiatic	195	......
Forenede Bryggr	875	......
GNT Holding	272	......
I.S.S.B. Systems	775	......
Jyske Bank	525	......
Novo Inds.*	248	......
Privatbanken	270	......
Sophus Berendsen	890	......
Superfos	234	......

FINLAND

June 8	Price Mks	+ or −
Amer	218	+1
KOP	49.20	−0.1
Kone	247.5	+15
Finnish Sugar	93.75	......
Nokia	162.5	−3
Pohjola 'B'	78.70	+0.55
Rauma-Repola	25.75	......
Stockmann 'B'	238.5	+0.5
UBF 'C'	31.75	+0.25
Utd. Paper	151.5	−1.5
Wartsila (S11)	207.5	−1

FRANCE

June 8	Price Frs.	+ or −
Emprunt 4½% '73	1905	......
Emprunt 7% 1973	8920	......
Accor	455.00	......
Agence Havas	1175	......
Air Liquide	675	......
BIC	670	......
BNP (Cert. Inv.)	532	......
Bongrain	2799	......
Bouygues	1060	......
BSN Gervais	4965	......
CIT-Alcatel	2455	......
Carrefour	3230	......
Club Mediterranee	623.00	......
Cie Bancaire	681	......
Cofimeg	369.50	......
CGE	325.00	......
Damart	2940	......
Darty	405	......
Dumez S.A.	2173	......
Eaux (Cie Gen)	1251	......
Elf-Aquitaine	369.00	......
Essilor	3520	......
Gen. Occidentale	1130	......
Imetal	118.00	......
Lafarge Coppee	1455	......
L'Oreal	4050	......
Legrand	5370.00	......
Maisons Phenix	121.50	......
Matra S.A.	2270	......
Michelin B.	3122	......
Midi (Cie)	1450	......
Moet-Hennessy	2470	......
Moulinex	109	......
Nord Est	176.00	......
Paribas	476.00	......
Pernod Ricard	1045.00	......
Perrier	770	......
Petroles Fra	316.00	......
Peugeot S.A.	1519	......
Printemps Au	745.00	......
Radiotech	1540	......
Redoute	3120	......
Roussel-Uclaf	1485	......
St. Gobain	418.00	......
Sefimeg	494	......
Skis Rossignol	1230	......
Telemech Elect	2900	......
Thompson (CSF)	1420	......
Valeo	555.00	......

GERMANY

June 5	Price Dm.	+ or −
AEG	310.50	......
Allianz Vers	1590	......
BASF	287	......
Bayer	312	......
Bayer-Hypo	373	......
Bayer-Verein	379	......
BHF-Bank	402	......
BMW	614	......
Brown Boveri	325.50	......
Commerzbank	247.50	......
Cont'l Gummi	333.50	......
Daimler-Benz	1011.50	......
Degussa	484.50	......
D'sche Babcock	213	......
Deutsche Bank	594	......
Dresdner Bank	308	......
Feld Muehle Nob	293.50	......
Henkel	518.80	......
Hochtief	634	......
Hoechst	272	......
Hoesch Werke	115.60	......
Holzmann (P)	384	......
Horten	219	......
Hussel	525	......
Karstadt	435	......
Kaufhof	481	......
KHD	162.80	......
Kloeckner	44.90	......
Linde	690	......
Lufthansa	166	......
MAN	156.50	......
Mannesmann	154.80	......
Mercedes Hld.	848	......
Metallgesell	323	......
Muench Rueck	1650	......
Nixdorf	788	......
Porsche	920.50	......
Preussag	155.50	......
Rhein West Elect.	210.50	......
Rosenthal	238	......
Schering	533	......
Siemens	699	......
Thyssen	117	......
Varta	313	......
Veba	299.20	......
V.E.W.	163	......
Verein-West	397	......
Volkswagen	376.60	......

ITALY

June 8	Price Lire	+ or −
Banca Com'le	23619	+9
Bastogi-IRBS	667.00	+3
CIR	6050	+50
Credito Italian	2055	−46
Fiat	12830	+50
Generali Assicur	132700	+1000
Italcementi	96000	+1000
La Rinascente	1210	+5
Montedison	2555	+15
Olivetti	13100	+350
Pirelli Co	6550	+130
Pirelli Spa	5230	+18
Saipem	3800	......
Snia BPD	3868	+77
Toro Assic	32995	+1095

NETHERLANDS

June 5	Price Fls.	+ or −
ACF Holding	57.50	......
AEGON	87.50	......
Ahold	91.20	......
AKZO	129.50	......
ABN	476	......
AMEV	60.30	......
AMRO	73	......
Bredero Cert	37	......
Buehrmann-Tet	52.30	......
Dordtche Petroleum	236.40	......
Elsevier Ndu	47.80	......
Fokker	47	......
Gist Brocades	41	......
Heineken	172.50	......
Hoogovens	41.20	......
Hunter Douglas	52	......
IHC Calland	19.60	......
Int Mueller	64.50	......
KLM	46.70	......
KNP	141.50	......
Nat Ned Cert	67.30	......
Ned Mid Bank	158	......
Ned Lloyd	133.50	......
Oce Grinten	406	......
Ommeren (Van)	35.60	......
Pakhoed	71	......
Philips	47.80	......
Robeco	102.50	......
Rodamco	146	......
Rolinco	96.50	......
Rorento	52.30	......
Royal Dutch	257.90	......
Unilever	652.50	......
VMF Stork	22.50	......
VNU	74.60	......
Wessanen	78.80	......
Wolters Samsom	126.50	......

NORWAY

June 5	Price Kroner	+ or −
Aker-Norcem	65	......
Bergen bank	179	......
Bergesen B	397.50	......
Christiania Bk	189	......
Den Norsk Credit	155.50	......
Elkem	107.50	......
Kosmos	140	......
Kvaerner	212	......
Norsk Data	218	......
Norsk Hydro	203	......
Orkla Borregaar	389	......
Storebrand	332	......

SPAIN

June 8	Price Pts.	+ or −
Banco Bilbao	1375	−31
Banco Central	1003	......
Banco Exterior	440	......
Banco Hispano	495	−6
Banco Popular	1453	−22
Banco Santander	1142	−3
Banco de Vizcay	1800	......
Banesto	756	−9
Dragados	661	−9
Hidrola	71	−1.7
Iberduero	98	−5
Petroleos	500	−8
Telefonica	168.7	+1

SWEDEN

June 5	Price Kroner	+ or −
AGA (free)	193	......
Alfa-Laval	315	......
ASEA (Free)	329	......
Astra (Free)	287	......
Atlas Copco	164	......
Beijer A Fria	227	......
Cardo (Free)	235	......
Cellulosa	349	......
Electrolux B	284	......
Ericsson	263	......
Esselte	145	......
Mo Och Domsjo	370	......
Pharmacia	194	......
Saab-Scania (free)	608	......
Sandvik	169	......
Skandia	147	......
Skan Enskilda	123	......
SKF	357	......
St. Kopparbergs	372	......
Svka Handelsbn	445	......
Swedish Match	493	......
Volvo B (Free)	303	......

SWITZERLAND

June 5	Price Frs.	+ or −
Adia Intl.	11300	......
Alusuisse	635	......
Bank Leu	3125	......
Brown Boveri	2070	......
Ciba Geigy	3200	......
do. (PtCts)	2170	......
Credit Suisse	3000	......
Elektrowatt	3425	......
Fischer (Geo.)	1490	......
Hoff-Roche (Pt Cts)	127,250	......
Hoff-Roche 1/10	12700	......
Jacobs Suchard	8700	......
Jelmoli	3400	......
Landis & Gyr	1525	......
Nestle	8975	......
Oer-Buhrle	1175	......
Pargesa Hldg	2120	......
Pirelli	397	......
Sandoz (Br)	12000	......
Sandoz (PtCts)	1910	......
Schindler (PtCts)	840	......
Sika	1640	......
Surveillance	7375	......
Swissair	1350	......
Swiss Bank	428	......
Swiss Reinsce	15425	......
Swiss Volksbk	2000	......
Union Bank	4480	......
Winterthur	6050	......
Zurich Ins	6225	......

AUSTRALIA

June 5	Price Aust$	+ or −
ACI Int.	4	......
A.F.P.	2.60	......
Adelaide Steams	9.50	......
Amcor	4.40	......
ANZ Group	4.15	......
Ampol Pet	3	......
Ariadne Aust	3.30	......
Ashton	3.70	......
Aust Guarant	2.70	......
Aust Nat Inds	1.98	......
Bell Group	7.96	......
Bell Resources	4.50	......
Bond Corp Hldgs	2.35	......
Boral	5.10	......
B'ville Copper	4.60	......
Brambles Inds	9.70	......
Bridge Oil	1.50	......
BHP	9.76	......
Burns Philip	10.04	......
CRA	8.96	......
CSR	3.92	......
Chase Corp	2.85	......
Claremont Petro	1.40	......
Coles Myer	7	......
Comalco "A"	3.45	......
Consolidated Pet	0.27	......
Costain Aust	2.90	......
Elders IXL	4.35	......
Energy Res	2.50	......
Gen Prop Trust	3.20	......
Hardie (J.)	3.40	......
Hartogen Energy	3.30	......
ICI Aust	4.80	......
Industrial Equity	4.55	......
Jimberlana (50cFP)	0.60	......
Kia Ora Gold	1.15	......
Kidston Gold	7.70	......
Lend Lease	14	......
MIM	2.28	......
Mayne Nickless	4.35	......
Nat. Aust. Bank	4.65	......

AUSTRALIA (Continued)

June 5	Price Aust$	+ or −
News	17.80	......
Noranda Pacific	3.45	......
North Bkn Hill	2.78	......
Oakbridge	0.62	......
Pacific Dunlop	4.85	......
Pancont'l	3.85	......
Pioneer Conc	3.30	......
Placer Pacific	3.68	......
Poseidon	4.15	......
Queensland Coal	1.42	......
Santos	6.92	......
Smith (H.)	4.95	......
Thos Natwide	4.35	......
Tooth	7.50	......
Vamgas	3.70	......
Western Mining	6.36	......
Westpac	4.90	......
Woodside Petrol	2.20	......
Woolworths	3.35	......
Wormald Intl	3.55	......

HONG KONG

June 8	Price H.K.$	+ or −
Bank East Asia	23.20	+0.5
Cathy Pacific	6.30	......
Cheung Kong	11.60	......
China Light	23.00	......
Evergo	0.68	+0.02
Hang Lung	13.80	+0.1
Hang Seng Bank	37.00	......
Henderson Land	6.90	......
Hong Kong China	17.00	+0.1
HK Electric	15.20	......
HK Land	6.85	−0.05
HK Shanghai Bank	8.30	+0.05
HK Telephone	13.90	+0.5
Hutchison Wpa	12.60	......
Indust Equity P	20.20	+0.4
Jardine Math	18.10	−0.3
New World Dev	12.10	−0.2
SHK Props	17.10	......
Shell Elec. Mfg.	1.36	−0.04
Swire Pac A	22.20	+0.4
TV-B	13.70	−0.2
Wharf Hldgs	8.40	......
Windsor Ind.	11.40	+0.1
World Int Hldgs	3.97	+0.02

JAPAN

June 8	Price Yen	+ or −
Ajinomoto	3630	+80
All Nippon Air	1950	......
Alps Electric	2050	−20
Asahi Chemicals	1250	−10
Asahi Glass	2080	−10
Bank Tokyo	1730	......
Bridgestone	1000	−20
Brother Inds.	636	−8
Canon	914	+1
Casio Computers	1190	+20
Chugai Pharm	1940	−10
Daiei	1740	+50
Dai Ichi Kan Bank	3850	+40
Dai Nippon Ink	766	+16
Dai Nippon Ptg	2360	......
Daiwa House	2580	−10
Daiwa Sec	3250	−40
Eisai	2000	+20
Fanuc	5420	−70
Fuji Bank	3830	−20
Fuji Film	3240	+40
Fujisawa	2000	+20
Fujitsu	1110	+50
Fujisawa Elect	805	+5
Green Cross	2760	−40
Heiwa Real Est	1890	+20
Hitachi	1070	......
Hitachi Credit	1780	......
Honda	1530	......
Indl Bank Japan	4790	+50
Ishikawajima Ha	759	−2
Isuzu Motors	400	+18
Itoh (C)	830	......
Ito Yokado	3890	+40
JAL	15200	−100
Jusco	1390	+20
Kajima	1990	+30
Kao Soap	2140	+40
Kawasaki Steel	258	......
Kirin	2950	+70
Kobe Steel	297	−3
Komatsu	680	......
Konishiroku	691	+1
Kubota	637	+7
Kumagai	1210	+10
Kyoto Ceramic	5230	−30
Marubeni	560	−10
Marui	3300	+20
Mazda Motors	425	+12
Meiji Seika	1200	+20
MEI	1890	+20
M'bishi Bank	3860	+10
M'bishi Chem	1170	−10
M'bishi Corp	1470	−20
M'bishi Elec	601	+20
M'bishi Estate	3120	−30
MHI	611	+7
Mitsui Bank	2780	+80
Mitsui Co.	858	+4
Mitsui Estate	2980	......
Mitsui Toatsu	758	+4
Mitsukoshi	1700	+30
NGK Insulators	960	+20
Nikko Sec	2650	+10
Nippon Denso	1550	+30
Nippon Elect	1900	+10
Nippon Express	1410	−20
Nippon Gakki	1530	+10
Nippon Kogaku	769	+1
Nippon Kokan	316	−2
Nippon Oil	1340	+20

JAPAN (Continued)

June 8	Price Yen	+ or −
Nippon Seiko	545	+7
Nippon Shimpan	1340	−20
Nippon Steel	360	+1
Nippon Suisan	660	−15
Nippon Yusen	641	+2
Nissan Motor	739	+19
Nisshin Flour	1390	+40
Nomura	5210	+10
Olympus	1090	......
Onada Cement	840	+20
Orient Finance	1630	−70
Orient Leasing	4030	+100
Pioneer	2340	−20
Ricoh	945	+10
Sankyo	1960	+20
Sanwa Bank	3230	+30
Sanyo Elect	490	+15
Sapporo	2280	+80
Sekisui House	2590	......
Seven-Eleven	7950	......
Sharp	1000	+19
Shimizu Const.	1100	+60
Shionogi	1810	+10
Shiseido	2100	+30
Showa Denko	698	+12
Sony	3210	−10
S'tomo Bank	4610	+110
Sumitomo Chem	904	+4
Sumitomo Corp	1200	+30
S'tomo Elect	1790	−10
S'tomo Metal	239	−1
Taisei Corp	1250	......
Taisho Marine	1350	......
Taiyo Kobe Bank	1750	+10
Takeda	3340	+20
TDK	3500	......
Teijin	875	+11
Toa Nenryo Kyo	2230	+50
Tokai Bank	2410	−90
Tokyo Marine	2600	+10
Tokyo Elect Pwr	7890	−30
Tokyo Gas	1350	−10
Tokyu Corp	2070	......
Toppan Print	1750	−10
Toray	757	+9
Toshiba Elect	745	+5
Toyo Seikan	2530	......
Toyota Motor	1860	+20
UBE Inds	510	−4
Victor	2760	−40
Yamaha	865	......
Yamaichi Sec.	2590	+30
Yamanouchi	4090	+30
Yamazaki	1780	−30
Yasuda Fire	1300	+20

SINGAPORE

June 8	Price $	+ or −
Boustead Hldgs	1.97	+0.07
Cerebos Pacific	5.70	......
Cold Storage	4.40	+0.08
DBS	13.90	......
Genting	6.70	+0.4
Haw Par Bros	4.86	−0.06
Hong Leong Fin	4.40	−0.06
Inchcape Bhd	5.35	−0.1
Keppel Shipyard	3.74	+0.02
Malay Banking	7.85	−0.05
Malayan Utd. Ind.	2.52	−0.01
Multi Purpose	0.88	−0.01
OCBC	9.65	......
OUB	4.56	+0.02
Public Bank	2.66	−0.01
Sime Darby	3.42	−0.04
Singapore Air	13.70	−0.1
Singapore Press	8.40	+0.15
Straits Trading	4.40	+0.04
Tat Lee Bank	3.48	−0.02
UOB	5.65	+0.05

SOUTH AFRICA

June 8	Price Rand	+ or −
Abercom	3.35	+0.1
AE & CI	17.50	......
Allied Tech.	150	......
Anglo Am Coal	36.25	......
Anglo Am Corp	79.75	+0.75
Anglo Am Gold	365.00	+3
Barclays Bank	22.25	−0.75
Barlow Rand	25.50	......
Buffels	75.00	−1.5
CNA Gallo	4.55	−0.15
Currie Finance	5.35	+0.05
De Beers	39.00	+0.25
Driefontein	81.50	+0.75
Freegold	54.00	+0.5
Gold Fields SA	71.50	+0.5
Highveld Steel	6.90	+0.05
Malcor Hldgs	19.25	−0.25
Nedbank	8.20	......
OK Bazaars	18.25	......
Rembrandt	15.00	......
Rust Plat	55.25	−0.62
Safren	26.50	......
Sage Holdings	17.25	......
SA Brewers	18.50	+0.4
Smith (C.G.)	41.40	−0.6
Tongaat Hulett	11.75	+0.05

NOTES — Prices on this page are as quoted on the individual exchanges and are last traded prices. § Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all. * Price in Kroner.

CANADA

TORONTO
Closing prices June 8

Sales	Stock	High	Low	Close	Chng
6454	AMCA Int	$10⅞	10¾	10⅞	+⅛
11510	Abitibi Pr	$36⅝	36½	36⅝	+⅛
400	Acklands	$17½	17	17½	+½
16600	Agnico E	$34⅛	33⅞	33⅞	−⅛
7677	Albrta En	$21	20½	20¾	
6720	Albrta N	$15	14⅞	14⅞	
131941	Alcan	$41⅛	39¾	40½	+⅜
2230	Algo Cent	$21	20⅞	21	+¼
3610	Algoma St	$16	15⅞	16	
9800	Asamera	$13¾	13⅝	13⅝	
6666	Atco I f	$11¼	11	11⅛	−⅛
14100	Atco II	$11	10⅞	10⅞	−⅛
1196	BC Sugar A	$27½	27¼	27½	
16425	BGR A	$13¼	12⅞	13	+¼
2019	BP Canada	$22¾	22	22	−¾
2000	Banister C	$11¼	11⅛	11¼	+¼
41828	Bk BCol	64	62	64	+1
29203	Bk Montl	$33⅞	33⅝	33⅞	+⅛
55210	Bk NScot	$18¼	17⅞	18⅛	+⅛
201013	Bell Can	$43	42¾	43	+⅛
22188	Bow Valy	$18⅞	18¾	18¾	−⅛
400	Bralorne	215	210	215	
1725	Bramalea	$25	25	25	
22490	Brascan A	$34⅞	34½	34¾	
13020	Brkwater	$9⅛	9	9	
1000	Brenda M	$12½	12½	12½	
147436	BC ForP	$19¼	19	19	−¼
11570	BC Res	120	117	117	
7586	BC Phone	$28½	28¼	28½	
400	Brunswk	$15¾	15¾	15¾	−⅛
12330	CAE	$11	10¾	11	
132200	CCL B f	$14	13¾	13⅞	+⅛
100	CIL	$28½	28½	28½	−¼
68100	Cad Frv	$33¼	32⅞	33¼	+¼
18010	Cambridg	$26⅞	26½	26¾	+¼
7421	Camp RLk	$39	38	38⅛	−⅝
1643	Camp Res	290	290	290	+5
1859	Camp Soup	$20⅛	20⅛	20⅛	
4600	Campeau f	$36⅝	36⅛	36¼	
21307	CCem ex p	$16⅝	16	16⅜	+¼
165988	CDC f	$12	11⅞	12	+¼
30001	C Nor West	$22⅞	22½	22½	−⅛
5600	C Packrs	$16⅜	16⅛	16⅛	−¼
430	Can Trust	$67¾	67¾	67¾	
700	Cdn GE	$22½	22½	22½	
55109	Cl Bk Com	$21⅝	21⅛	21⅝	+¼
1952	C Marconi	$19¾	19½	19¾	+¼
426	C Ocdental	$37½	37½	37½	
144828	CP Ltd	$23¾	23¼	23¾	+¼
89590	CTire A f	$15¼	15⅛	15¼	+⅛
5723	CUtil A f	$20⅜	20¼	20⅜	
1200	CUtil B	$20⅜	20⅜	20⅜	
18140	Canfor	$28⅞	27⅞	28½	+⅞
1650	Cara	$11⅞	11¾	11⅞	−⅛
2400	Cara A f	$11⅞	11⅝	11⅝	−¼
56000	Carma A	11	10½	11	+½
3115	Celanese	$20⅞	20	20⅞	+⅞
6200	CentFd A	$9½	9¼	9¼	−¼
100	Centrl Tr	$21½	21½	21½	
1308	Chieftan	$14⅛	14	14	−⅜
546900	CHUM B f	$15⅜	15	15	−1
194093	Cominco	$18¼	17⅞	18⅛	+⅛
2800	Computog	$7¼	7¼	7¼	−¼
2450	Comput In	315	315	315	
3400	Comterm	102	101	102	+1
6965	Con Bath A	$18⅜	18	18⅜	+⅛
81500	CDistb B f	440	430	430	−15
8088	Cons Gas	$27¼	26⅜	26⅜	−⅞
17700	Con Glass	$24¼	24	24	−½
2139	CTL Bank	$10	310	310	+5
1405	Conwst B	$13¾	13¾	13¾	
9615	Costain Ltd	$14	13¼	13¼	−¾
18500	Coseka R	120	116	116	−4
1500	Crownx	$17¼	17	17¼	+¼
22000	Crownx A f	$8⅛	8	8	−⅛
16950	Czar Res	228	220	220	−10
2785	Denison A p	$8⅞	8⅝	8⅞	+¼
8573	Denison B f	$6¼	6	6	
3450	Dickman A f	$12⅛	11⅞	12	
30967	Dofasco	$26	25⅝	25¾	
58825	Dome Mine	$19⅞	19⅛	19⅛	−⅜
242276	Dome Pete	125	121	121	−3
16903	D Textile	$20¼	20	20	−¼
11415	Domtar	$20¼	19¾	20⅛	
500	Donohue	$36	36	36	+¼
1800	Du Pont A	$28	27½	28	
52470	Dylex A	$15	14¾	15	−⅛
34065	Echo Bay	$52⅞	51⅝	51⅞	−¼
2200	Emco	$13⅞	13½	13¾	+⅛
5550	FCA Intl	$17¼	17	17¼	+¼
149385	Ficnbrdg	$21⅝	21½	21½	−⅛
15175	Fed Ind A	$18⅞	18¾	18⅞	+⅛
5350	Fed Pion	$12	11⅞	12	
2000	FCity Fin	$18¾	18⅜	18⅜	−⅛
175	Ford Cnda	$175¾	175¾	175¾	
7200	Gandalf	$12⅝	12½	12⅝	+⅛
144370	Geac Comp	345	235	305	−40
11890	Gendis A	$19½	19	19½	+½
200	Giant Yk	$23	23	23	
4400	Gibrltar	$10⅜	10⅛	10⅛	−⅜
7518	Goldcorp f	$10¾	10½	10¾	
23165	Grafton A f	$15	14¾	14¾	−¼
1856	GL Forest	$45½	45	45½	+½
339	Greyhnd	$28	28	28	
22600	GuarPA f	$18	17½	17⅞	+½
12799	Gulf Can	$30	29¾	29¾	−¼
4640	Hawker	$27⅛	27	27	−⅛
1171	Hayes D	$11⅞	11⅞	11⅞	+⅛
28475	Hees Intl	$22	21½	22	+⅝
225	H Bay Co	$24½	24½	24½	−¼
35645	Imasco	$33¾	33¼	33¾	+¼
38027	Imp Oil A	$69½	69½	69½	+¾
109369	Inco	$23½	23	23⅜	−⅛
19600	Indal	$12¾	12⅝	12¾	
2400	Inland Gas	$14¾	14⅝	14¾	+⅛
134325	Innopac	$9½	9⅛	9⅜	+⅛
10830	Inter City	$18⅜	18⅛	18⅜	+¼
17825	Intl Thom	$14⅞	14⅝	14¾	
102070	Intpr Pipe	$48⅞	48⅝	48⅞	+⅛
500	Ipsco	$10¼	10¼	10¼	
13680	Ivaco A f	$15⅝	15½	15½	
2000	Ivaco B	$15¾	15½	15½	−⅜
5350	Jannock	$18⅞	18⅝	18¾	+⅛
693	Kerr Add	$22	22	22	
27215	Labatt	$24⅞	24½	24¾	
72105	LL Lac	$45⅝	45	45	−⅜
11020	Lacana	$18⅜	17⅞	17⅞	−¼
12680	Laidlaw A	$21⅝	21¼	21½	+⅛
161437	Laidlw B f	$20	19⅞	19⅞	
54450	Leigh Inst	$5¾	5⅝	5⅝	−⅛
1965	Loblaw Co	$14¾	14¼	14¼	−⅜
4950	Lumonics	$12	11½	11⅞	+⅜
2800	MICC	$16¾	16¼	16½	
19340	Mclan H X	$19¾	19⅜	19¾	+⅜
16100	Mcln HY f	$17½	17⅜	17½	
107442	MacmBlan	$24⅞	24½	24¾	+⅜
27200	Magna A f	$27	26½	26¾	−¼
3273	Maritime f	$16¼	16⅛	16⅛	−⅛
120	Mc Intyre	$44¾	44¾	44¾	+⅝
26504	Minrl Res	390	380	385	−10
63160	Mitel Corp	$6⅞	6⅝	6⅝	−⅛
5400	Moffat	$16	16	16	
16421	Molson A f	$24⅛	23¾	23⅞	
551	Molson B	$24¾	24¾	24¾	
2063	Moneco A f	425	425	425	
2100	M Trusco	$14⅞	14¾	14¾	−⅛
18686	Moore	$31⅞	31⅝	31⅞	
102945	Nat Bk Can	$14⅜	14⅛	14¼	
3051	Nt Vg Trco	$24¾	24½	24½	−½
1800	Nfl CapA f	$11⅞	11½	11½	−⅜
5250	Nfld LP A	$21	21	21	+⅜
133880	Noranda	$29⅞	29⅝	29¾	+¼
5180	Norcen	$24½	24¼	24½	+¼
4801	Norcen ord f	$22⅜	22¼	22⅜	
17367	NC Oils	$16¾	16	16¾	+⅞
46403	Nor Tel	$26⅜	25¾	26⅜	+⅛
37550	Northgat	$11	10¾	10¾	
199676	Nva AltA f	$8¾	8⅝	8¾	−⅛
26440	Nowsco W	$17	17	17	−¼
1562	Nu West	39	39	39	+1
12100	Numac	$10¾	10¼	10¼	−⅜
4200	Oakwd A f	185	180	185	+20
20200	Ocelot B f	$5⅛	495	5	
6200	Omega Hyd	$8	7½	8	+⅜
23780	Oshawa A f	$20⅜	20⅛	20⅜	+⅛
15736	PacW Airl	$26⅜	26⅛	26⅜	+⅛
14600	Pgurin A f	$14⅞	14¾	14¾	+¼
1200	Pamour	$13¼	13⅛	13⅛	−⅛
2200	PanCan P	$34⅝	34¼	34¼	−¼
42204	Pegasus	$26¾	26⅛	26¼	+⅛
6000	Pembina	$17½	17⅜	17½	+⅛
500	PJewl A f	$13⅞	13⅞	13⅞	+¼
8330	Pine Point	$16	15	15¾	+¾
189976	Placer D	$22⅝	22⅛	22⅛	−⅛
54600	Poco Pet	$15¾	15¼	15⅜	−⅜
50200	Powr Cor f	$17⅝	17⅜	17½	−¼
54202	Precamb	375	375	375	−10
1900	Provigo	$23	22⅞	23	
11958	Que Sturg	$7	6⅞	6⅞	−⅛
71737	Ranger	$7¾	7½	7½	−⅛
9050	Rayrock f	$12¾	12⅜	12½	+¼
16252	Redpath	$13¼	12⅝	12¾	−¾
9700	Regionl R	360	335	335	−25
76100	Rio Algom	$21⅝	21⅜	21⅝	
2100	Rogers A	$22	21½	22	+¾
49085	Rogers B f	$21¾	21⅛	21¾	+½
2600	Roman	$15½	15⅜	15½	+⅛
595	Rothman	$79¾	79¾	79¾	
37362	Royal Bnk	$33⅜	33	33¼	
33574	RyTrco A	$17¼	17⅛	17⅛	−⅛
28771	Royex	$5¼	5⅛	5⅛	
700	SHL Syst	$27⅜	27⅜	27⅜	−¼
2200	StL CemA f	$26¾	26½	26¾	
7800	Sceptre	470	460	470	
13600	Scotts f	$11½	11½	11½	−⅛
1000	Scotts C	$11⅝	11⅝	11⅝	−⅛
66039	Seagram	$95⅞	93¼	95¼	+⅝
15384	Sears Can	$11⅜	11¼	11⅜	
1400	Selkirk A f	$19⅝	19⅝	19⅝	
25500	Shell Can	$46¾	46¼	46¾	+¼
13575	Sherritt	$5¾	5⅝	5⅝	
29284	Southm	$21½	21¼	21¼	−¼
4298	Spar Aero f	$20⅜	20⅛	20⅜	+⅛
500	Steinbg A f	$38¼	38¼	38¼	−¼
9120	Stelco A	$25⅜	24⅝	24⅝	−¾
54865	Teck B f	$32½	32⅛	32¼	+¼
9400	Terra Mn	263	255	255	−2
27900	Texaco Can	$35½	35⅛	35½	+⅜
30750	Thom N A	$31⅜	30¾	31⅛	−⅛
175631	Tor Dm Bk	$29¼	28⅞	29¼	
840	Tor Sun	$21	20½	20¾	+¼
6000	Torstar B f	$29½	29½	29½	+¼
7420	Total Pet	$28⅜	28⅛	28⅜	+⅜
1300	Traders A f	$55⅝	55⅜	55⅜	−¾
50	Trns Mt	$16⅛	16⅛	16⅛	
43172	TrnAlta UA	$30	29¾	29⅞	−⅛
52309	TrCan PL	$18¼	18	18	−¼
23462	Trilon A	$20⅞	20½	20⅞	+⅛
10748	Trimac	485	485	485	−15
2700	Trinity Res	120	115	120	
6080	Trizec A f	$33½	33½	33½	−⅛
5030	Trizec B	$34½	34½	34½	
34783	Ulster P	283	275	275	−5
1520	Un Carbid	$16⅝	16⅝	16⅝	−⅜
4500	U Entprise	$12⅛	12	12	
332	Un Corp	$54⅝	53⅛	53⅛	
41700	Verstl A f	90	85	90	+5
45000	Verstl B	75	73	73	+1
10200	Vestgron	118	112	115	+3
36250	Vulcan Ind	300	295	295	−5
1100	Wajax A	$15½	15½	15½	
29595	Wcoast T	$17½	17¼	17½	+⅛
8435	Westmin	$11⅞	11¾	11¾	
1975	Weston	$40⅜	40	40¼	
49170	Woodwd A	$6⅜	6⅛	6⅜	+¼

F—No voting rights or restricted voting rights.

MONTREAL
Closing prices June 8

Sales	Stock	High	Low	Close	Chng
26532	Bank Mont	$33⅞	33⅝	33⅝	
2161	BombrdrA	$24¾	24¼	24¼	−⅜
15512	BombrdrB	$24⅞	24¼	24¼	−⅝
350	CB Pak	$20	19⅞	20	
31507	Cascades	$12⅜	12⅛	12⅛	−⅛
1321	ConBath	$18¼	18	18¼	+⅛
11515	DomTxtA	$20¼	20	20⅛	
3300	MntTrst	$14⅞	14¾	14⅞	−⅛
38824	NatBk Cda	$14⅜	14⅛	14¼	
14792	Noverco	$12⅞	12¾	12¾	−⅛
62038	Power Corp	$17⅝	17⅜	17⅜	−⅜
24923	Provigo	$23	22¾	23	+⅛
1400	RollandA	$15⅞	15½	15⅞	
32822	Royal Bank	$33⅜	33	33¼	
967	SteinbrgA	$38⅜	38	38	−¼

Sales 5,195,201 shares

Indices

NEW YORK-DOW JONES

	June 8	June 5	June 4	June 3	June 2	June 1	1986/87 High	1986/87 Low	Since Compilation High	Since Compilation Low
Industrials	2,351.94	2,328.15	2,337.08	2,320.00	2,278.22	2,288.23	2405.54 (6/4/87)	1927.31 (2/1)	2405.54 (6/4/87)	41.22 (2/7/32)
Transport	1,001.42	[illegible]	[illegible]	978.78	[illegible]	978.73	[illegible] (6/5/87)	[illegible] (2/1)	[illegible] (6/5/87)	12.32 (8/7/32)
Utilities	201.88	198.84	198.47	198.88	194.81	195.82	227.83 (22/1/87)	191.38 (28/5)	227.83 (22/1/87)	10.5 (8/4/32)
Trading vol	-	129.11m	140.38m	184.17m	153.7m	148.81m	–	–	–	–

	May 29	April 24	April 10	Year Ago (Approx)
Ind Div Yield %	2.83	2.88	2.86	3.57

STANDARD AND POORS

	June 8	June 5	June 4	June 3	June 2	June 1	1987 High	1987 Low	Since Compilation High	Since Compilation Low
Industrials	342.85	340.53	342.84	340.77	334.87	338.25	349.93 (6/5/87)	274.58 (2/1/87)	349.49 (6/4/87)	3.52 (21/6/32)
Composite	298.72	293.45	295.80	293.47	288.46	290.10	301.95 (6/4/87)	246.45 (2/1/87)	301.95 (6/4/87)	4.40 (1/6/32)

	April 22	April 15	April 8	Year Ago (Approx)
Ind div yield %	2.52	2.54	2.47	2.95
Ind. P/E Ratio	23.17	21.23	22.12	17.22
Long Gov Bond Yield	8.32	8.39	7.88	7.78

N.Y.S.E. ALL COMMON

June 8	June 5	June 4	June 3	1987 High	1987 Low
187.13	185.48	186.16	185.27	171.88 (24/3/87)	141.91 (21/1)

RISES AND FALLS

	June 8	June 4	June 3
Issues traded	1,938	1,959	1,958
Rises	714	817	1,098
Falls	809	684	471
Unchanged	417	429	380

TORONTO

	June 8	June 5	June 4	June 3	1987 High	1987 Low
Metals & Minls	2,849.6	2,836.48	2,828.8	2,782.8	2,843.6 (11/5/87)	1,888.2 (2/1/86)
Composite	3,728.3	3,728.10	3,726.2	3,701.9	3,881.2 (6/4/87)	3,067.8 (2/1/86)
MONTREAL Portfolio	1,852.38	1,852.98	1,854.49	1,852.43	1,925.8 (6/4/87)	1,534.2 (2/1/86)

* Indicates pre-close figure

	June 8	June 5	June 4	June 3	1987 High	1987 Low
AUSTRALIA All Ord (1/1/80)	(c)	1778.0	1772.4	1776.2	1858.8 (18/5)	1486.7 (2/2)
Metals & Minerals (1/1/80)	(c)	1073.7	1077.9	1105.0	1287.5 (18/5)	729.1 (2/1)
AUSTRIA Credit Aktien (30/12/84)	(c)	186.61	186.60	186.52	230.60 (2/1)	183.43 (25/5)
BELGIUM Brussels SE (1/1/84)	(c)	4566.72	4527.60	4501.70	4683.0 (15/5)	3987.86 (9/1)
DENMARK Copenhagen SE (3/1/83)	(c)	(c)	(c)	206.42	217.57 (22/1)	189.64 (6/1)
FINLAND Unitas General (1975)	524.7	523.0	522.5	519.3	524.7 (8/6)	425.2 (5/1)
FRANCE CAC General (31/12/82)	(c)	413.40	418.30	416.30	460.4 (26/3)	392.0 (2/1)
Ind Tendance (31/12/86)	(c)	102.80	104.10	103.10	117.2 (26/3)	97.8 (2/1)
GERMANY FAZ Aktien (31/12/58)	(c)	578.56	582.59	580.85	676.84 (6/1)	538.32 (19/3)
Commerzbank (1/12/53)	(c)	1749.90	1762.40	1757.20	2048.3 (6/1)	1633.8 (19/3)
HONG KONG Hang Seng Bank (31/7/64)	3068.06	3064.33	3023.60	2985.10	3068.06 (8/6)	2449.88 (20/1)
ITALY Banca Com. Ital (1972)	701.43	697.40	695.03	694.63	767.34 (30/4)	673.60 (3/3)
JAPAN** Nikkei (16/5/49)	25523.89	25271.30	25366.11	25049.40	25523.89 (8/6)	18544.0 (13/1)
Tokyo SE New (4/1/68)	2195	2181.01	2190.35	2158.92	2195.28 (8/6)	1557.46 (13/1)
NETHERLANDS ANP CBS Gen (1970)	(c)	287.0	287.90	285.00	293.4 (9/4)	257.7 (28/1)
ANP CBS Indust. (1970)	(c)	245.50	247.40	247.50	274.9 (5/1)	243.7 (28/1)
NORWAY Oslo SE (4/1/83)	(c)	—	435.15	428.82	436.16 (24/4)	361.98 (2/1)
SINGAPORE Straits Times (30/12/66)	1241.00	1245.71	1238.21	1239.45	1245.71 (5/6)	889.08 (2/1)
SOUTH AFRICA JSE Gold (28/9/78)	(u)	2076.0	2083.0	2080.0	2308.0 (27/4)	1786.0 (19/3)
JSE Indust (28/9/78)	(u)	1878.0	1864.0	1856.0	1957.0 (19/5)	1423.0 (2/1)
SPAIN Madrid SE (30/12/85)	223.35	225.75	227.81	229.39	255.95 (23/2)	202.89 (8/5)
SWEDEN Jacobson & P. (31/12/56)	(c)	2636.80	2635.20	2619.7	2782.10 (6/5)	2111.39 (28/1)
SWITZERLAND Swiss Bank Corp (31/12/58)	(c)	585.90	584.10	580.20	603.3 (6/1)	564.5 (25/2)
WORLD M.S.Capital Intl. (1/1/70)	(u)	466.90	468.5	466.50	476.50 (8/5)	361.3 (2/1)

**Saturday May 30: Japan Nikkei 24,901.99. TSE: 2,146.26.

Base values of all indices are 100 except Brussels SE—1,000 JSE Gold—255.7 JSE Industrials—264.3 and Australia. All Ordinary and Metals—500; NYSE All Common—50; Standard and Poor's—10; and Toronto Composite and Metals—1000. Toronto indices based 1975 and Montreal Portfolio 4/1/83. † Excluding bonds. ‡ 400 Industrials plus 40 Utilities, 40 Financials and 20 transports. (c) Closed. (u) Unavailable.

NYSE-Consolidated 1500 Actives

	Stocks Traded	3.00p.m. Price	Change on Day
Pac Ga Co	8,852,300	20⅞	−½
ATT	1,524,300	26⅛	+½
Borch Cotr	1,356,900	44¼	+5⅝
Echlin MFG	1,266,200	16⅞	+⅛
JP Morgan	1,203,900	47⅝	+1⅝
Hanson Tr	1,146,900	14⅛	+⅛
Gen Elec	1,128,700 xd	53⅝	+⅛
Amer Expr	1,118,500	34	+⅛
Nabisco RJR	1,068,800	63⅝	+2½
IBM	932,700	161	+1

Advances 854 Declines 418

LONDON — Most Active Stocks
Monday, June 8, 1987

	Stocks Traded	Closing Price	Change on Day
British Gas	13.90m	186	+3
Hanson Trust	9.60m	186½	+2
Rolls Royce	8.88m	137	−2
ASDA-MFI	5.48m	174	−4
TSB	4.49m	51½	−1
British Airways	4.48m	159	unch
United Biscuits	4.45m	322	+2
BP	3.70m	356	−6
Gen Elect	3.60m	235	−1
Hillsdown Hldgs	3.66m	297	−4

TOKYO — Most Active Stocks
Monday, June 8, 1987

	Stocks Traded	Closing Prices	Change on Day
Mitsubishi Electric	38.24m	601	+20
Mitsubishi Rayon	20.81m	549	+28
Osaka Cement	18.86m	848	+28
Central Glass	17.69m	735	+35
[illegible] Industries	14.67m	602	+13
Tokyo Steel MFG	13.42m	1,490	+40
Fujitsu	12.98m	1,110	+50
Jujo Paper	12.68m	585	+18
Cosmo Oil	12.67m	655	+15
Showa Denko	9.87m	698	+12

OVER-THE-COUNTER *Nasdaq national market, closing prices*

Stock	Sales (Hnds)	High	Low	Last	Chng
Continued from Page 49					
[illegible]					
Quadrx	111	9	8¾	9	
Quantm	212	22¼	21¾	22¼	+¼
Quiksiv	280	11⅝	11¼	11½	+¼
Quixte	64	14⅞	14⅝	14⅝	
[illegible]					
SootySv .26	412	23⅞	22	23⅛	+1
SoftwA	48	12⅝	12⅛	12⅛	
SftwPb	508	11⅞	11⅛	11⅜	−⅛
SomrBv	180	13⅛	13	13	−⅛
[illegible]					
UACm .04	1294	26¼	25¼	26¼	+¾
UBCol 1.08	220	19⅛	18⅞	19⅛	+⅛
UnCosF .60	x62	18½	18	18½	
UHltCr	178	6	5⅞	6	+⅛
[illegible]					

LONDON Chief price changes
(In pence unless otherwise indicated)

RISES:

Assoc Pblshrs	508	+58
Buckl. Brew.	142	+11
Canning (W)	272	+5
Cowie (T)	603	+13
Emess Lighting	446	+14
Glaxo	£17⅛	+⅜
Hillsdown	297	+4
Hogg Robinson	503	+14
Kalon	54	+5½
Raglan Prop Trst.	38	+7
Welpac	29	+4½
Wordplex	138	+8

FALLS:

Amersham Intl	604	−21
Bank of Ireland	228	−10
Beecham	544	−7
IBL	75	−3
Land Securities	515	−9
Midland Bank	604	−26
Nurdin & Peacock	196	−13
Unigate	415	−5

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
33⅝	20⅛	AAR s	.50	1.6	22	346	31½	30¼	31½	+1⅛
37	21⅞	ADT	.92	3.0	17	123	30⅞	30½	30¾	+¼
27¾	16¾	AFG s	.16	.6	11	623	25½	25	25¼	−⅜
22⅝	8⅜	AGS s			20	336	20	19⅞	19⅝	−⅝
13	6¾	AMCA				23	8	8	8	
9⅜	4⅞	AM Intl				1935	6¾	6⅝	6¾	+⅛
62⅛	47¼	AMR			12	9271	58⅝	56½	58⅛	+⅞
27½	24⅞	ANR pf	2.67	11.		1	25	25	25	−¼
11¾	8	ARX s			12	324	10¾	10⅜	10¾	+⅜
73½	28¾	ASA	2a	3.4		335	58⅞	58½	58¾	−¼
20	9¾	AVX		1.9	84	248	17	16⅝	16¾	−¼
67	41	AbtLab	1	1.6	26	3946	62¾	61¼	62⅜	
23⅛	16⅝	AccoWs	.44	2.1	19	424	21⅛	20⅝	21⅛	+½
15⅛	9	AcmeC	.40	3.1	9	54	13	12¾	12¾	−¼
8⅜	6⅛	AcmeE	.32b	4.0	31	1	8	8	8	
23⅞	16	AdaEx	3.42e	16.		65	21½	21⅜	21½	+¼
19½	11⅝	AdmMl s	.24	1.4	13	237	17⅛	17	17	
21½	12⅛	AdvSys	.62t	3.0	15	117	21	20⅝	20½	−⅛
25	12⅞	AMD				3816	21⅜	20½	21⅜	+⅜
54¾	48⅝	AMD pf	3	5.8		11	52¼	52	52	−⅛
10¾	5¼	Adobe				166	9½	9¼	9¼	−⅛
20½	13¾	Adob pf	1.84	9.6		149	18¾	18¾	18¾	−¼
21⅞	16⅝	Adob pf	2.40	12.		15	21	20¾	20¾	
16⅛	10⅝	Advest	.12a	.9	9	116	13	12¾	12¾	−⅛
68¼	53	AetnLf	2.76	4.8	9	1829	57½	56⅞	57½	+¼
53⅝	51⅛	AetL pf	3.75e	7.3		10	51⅜	51⅜	51⅜	−⅛
60⅛	26½	AflPb s	.32	.5	31	375	u60⅜	59⅝	59⅞	−¼
26¾	16⅝	Ahmans	.88	4.3	6	3172	20⅜	19¾	20¼	+¼
5¾	2⅞	Aileen				41	4⅝	4½	4½	−⅛
46½	29⅛	AirPrd	.80	1.8	24	3857	44	42¾	43⅞	+¾
35	18	AlrbFrt	.60	1.9	12	1255	32⅛	31	32	+⅞
[illegible]										

Continued on Page 49

NYSE COMPOSITE CLOSING PRICES

Continued from Page 48

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close	Ch'ge Prev. Close
[illegible]										
81¼	48⅝	Xerox	3	3.8	19	1915	78¾	77	78⅝	+ 1⅝
58¼	54⅝	Xerox pf5.45		9.9		245	55	54⅞	54⅞	− ⅛
38¾	21½	XTRA	.64	2.5		317	26¼	25¾	26	+ ⅜
24½	16	Yorkin			15	95	24¼	23⅞	24¼	
6	2¼	Zapata				1997	4⅞	4½	4⅞	
43⅞	20¾	Zayre	.40	1.5	16	2244	26⅞	25⅝	26¾	+ ¼
14¾	9¾	Zemex	.40	3.0	9	18	13⅞	13½	13½	− ¼
29¾	16⅞	ZenithE				886	29⅝	29¼	29⅝	+ ⅛
17½	8	ZenLab				341	10⅝	10⅜	10⅝	+ ⅛
19½	12⅝	Zero	.36	2.3	16	90	16	15⅝	16	
51¾	32⅞	Zurnin	1.36	2.8	17	57	48¾	48¾	48¾	− ¼
10⅝	6⅝	Zweig n.10e		1.1		824	9¼	9⅛	9⅛	− ⅛

Sales figures are unofficial. Yearly highs and lows reflect the previous 52 weeks plus the current week, but not the latest trading day. Where a split or stock dividend amounting to 25 per cent or more has been paid, the year's high-low range and dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual disbursements based on the latest declaration.

a-dividend also extra(s). b-annual rate of dividend plus stock dividend. c-liquidating dividend. cld-called. d-new yearly low. e-dividend declared or paid in preceding 12 months. g-dividend in Canadian funds, subject to 15% non-residence tax. *i-dividend declared after split-up or stock dividend.* j-dividend paid this year, omitted, deferred, or no action taken at latest dividend meeting. k-dividend declared or paid this year, an accumulative issue with dividends in arrears. n-new issue in the past 52 weeks. *The high-low range begins with the start of* trading. nd-next day delivery P/E-price-earnings ratio. r-dividend declared or paid in preceding 12 months, plus stock dividend. s-stock split. Dividends begin with date of split. sls – sales. *t-dividend paid in stock in preceding 12 months,* estimated cash value on ex-dividend or ex-distribution date. u-new yearly high. v-trading halted. vi-in bankruptcy or receivership or being reorganised under the Bankruptcy Act, or securities assumed by such companies. wd-distributed. wi-when issued. ww-with warrants. x-ex-divident or ex-rights xdis-ex-distribution. xw-without warrants. y-ex-dividend and sales in-full. yld-yield. z-sales in full.

AMEX COMPOSITE CLOSING PRICES

Stock	Div	P/E	Sls 100s	High	Low	Close	Change
[illegible]							

OVER-THE-COUNTER *Nasdaq national market, closing prices*

Stock	Sales (Hds)	High	Low	Last	Chng
[illegible]					

Continued on Page 47

FINANCIAL TIMES

WORLD STOCK MARKETS

AMERICA

Strong advance built on comfort of stable dollar

WALL STREET

STOCK PRICES advanced across a broad front on Wall Street after a choppy start, as traders took comfort from stabilising bond and foreign exchange markets, *writes Anatole Kaletsky in New York.*

President Reagan's announcement of the partial lifting of trade sanctions against Japan helped stabilise the dollar after its sharp pre-summit drop in Far East and European trading and helped the bond market retrace most of its early morning one-point decline.

By late afternoon in New York, the Treasury's benchmark long bond was down only ½ at $100¹¹⁄₃₂, having fallen as much as a full point in Europe earlier in the day.

The bond market's composure encouraged bargain hunting on the equity pitches and by the close the Dow Jones industrial average was up 25.49 at 2351.64. By contrast, during the distinctly bearish first half hour of trading, the Dow had been down more than 15 points. The transportation index was up 14.78 to 1001.42, while the Standard & Poors 500 was up 3.27 to 296.72.

Trading volume remained relatively subdued, continuing the pattern set in the last two listless weeks on Wall Street, with advancing stocks leading decliners by two to one.

Most of the blue-chip industrials joined in the widespread rally, with General Motors $½ higher at $86⅝ and Ford up $⅝ at $94⅞. Merck gained $2 to $162¾ and Exxon rose $¼ to $87½.

Technology stocks did particularly well, with IBM up $1⅝ to $161⅝, Digital Equipment $2⅝ higher at $164⅝ and Unisys up $1⅛ to $120. AT&T rose $⅝ to $26¼ and was among the day's most active issues.

Bank stocks figured prominently among the strongest performers, extending a pattern which began last month with Citicorp's announcement of large loss reserves for its Third World loans. More recently, buying has been motivated by mounting speculation about a change in the regulatory climate in the wake of Mr Paul Volcker's replacement by Mr Alan Greenspan as chairman of the Federal Reserve Board.

A story in the weekend papers, suggesting that the authorities might now favour the creation of a handful of "super-banks," large enough to compete with the Japanese financial giants, was good for $1⅛ on Citicorp's stock price, which advanced to $59⅝.

JP Morgan was boosted $2⅛ to $47⅞ and Chase Manhattan rose $⅝ to $40¼. Even BankAmerica, which had missed out on the recent rerating of bank stocks, jumped $⅝ to $11¼, partly perhaps because of the renewed hopes that the struggling banking colossus might again become a takeover target.

There was no major news on the bid and restructuring front. The two biggest bid targets, showed little change, with Harcourt Brace Jovanovich drifting down $¼ to $57⅞ after news that Mr Robert Maxwell, the British printing magnate, was expanding his legal attempts to block the Florida-based publishing company's recapitalisation. Meanwhile Allegis declined $⅝ to $89½, while Burlington Industries fell $½ to $75¼.

However, there were some more dramatic bid and deal developments among the smaller issues.

Research-Cottrell, a civil engineering and design contractor, was one of the morning's most active stocks, jumping $5¼ to $44, with 1.5m shares traded. The company agreed to be acquired for $43 a share in a leveraged buyout led by Odyssey Partners.

Washington Mutual Savings Bank rose $2½ to $36¾ on rumours that the company might be a bid target, with a price mentioned of $42 a share.

Bond market trading remained predominantly bearish, dominated by currency concerns, although the long bond managed to retrace most of its early morning losses on the European markets.

Dealers were pleased by conciliatory stance struck by President Reagan in the semiconductor trade war, and took further encouragement from the Japanese government commitment to maintain low short-term interest rates reported from Venice.

However, the general assessment of the Venice summit remained sceptical, with expectations of a further dollar decline in the near future appearently once again gaining ground.

The long bond was down $½ to 100¹¹⁄₃₂ by 4.30. Its yield was 8.687 per cent. Fed Funds traded throughout the day at around 6¹¹⁄₁₆ per cent, unchanged from their opening level.

Lex, Page 26

CANADA

INVESTORS kept to the sidelines in Toronto leaving share prices little changed in slow and uneventful trade. Golds were slightly firmer than the market trend.

Among the most actively traded shares, mining stock Cominco added C$⅛ to C$18⅛ and Unicorp Canada dipped C$⅛ to C$8⅞.

In golds, Glamis Gold picked up C$1 to C$9 and International Corona rose C$⅝ to C$40⅝. Campbell Red Lake, however, slipped C$½ to C$38 and Dome Mines was C$⅛ easier at C$19⅞.

Noranda said it would not resume mining operations at the fire-damaged Murdochville mine at the present level of copper prices. It rose C$⅛ to C$29⅞.

Oils and industrials were slightly easier. Montreal prices rose marginally and Vancouver was slightly higher.

The Vancouver exchange said it has listed the common stock of Greentree Energy.

London confident as election week starts

THE UK securities markets had a confident start to a potentially dramatic week which opens with the Venice summit and ends with the results of the British general election.

Share prices staged a successful rally from initial nervousness over the latest opinion polls, while government bonds moved ahead in late trading.

The FT-SE 100 index slid by 14 points after a poll by the Mori organisation had run counter to the message from other polls over the weekend, which were mainly favourable to the Conservatives. However, it recovered to close 0.4 lower at 2,228.4, while the FT Ordinary index was down 2.7 at 1,727.2.

There was little selling as the big institutions have now squared their position before election day on Thursday and only professional traders are left in the market.

Investor's attention is focused mainly on the prospects for re-election of the Thatcher Government. The Venice summit, in contrast, is seen as "an anti-climax, with no substantive measures", according to the latest strategy analysis from Chase Manhattan Securities.

International stocks had a firm session even when domestic issues drifted lower in early trading. Glaxo again saw support as investors continued to take the view that foreign buyers would return to the pharmaceutical sector after the election. It climbed ⅛ to £17⅛.

BAT Industries rose 7p to 594p, Jaguar 3p to 534p, Unilever ⅛ to £31⅞ and Fisons 11p to 372p.

Industrials were helped at the end of the day by a rally in bank shares after a major clearing bank denied suggestions that the banks planned write-downs of their Third World debts.

Bonds, which are widely expected to respond strongly to the outcome of the election, had a thin session until firmness in sterling encouraged buyers in the final hour. They finished with net gains of about ¼ of a point. Details, Page 46

EUROPE

Speculative buying lifts wary Milan

TRADING in continental Europe yesterday was limited to the Italian and Spanish stock markets. The remainder were closed for the Whitsun holiday.

Milan rose slightly on a spate of speculative buying in otherwise thin trade as investors remained wary of buying before next Sunday's parliamentary elections.

Industrial and insurance issues headed the field. Generali added L725 to close at L132,700 and Ras was up L390 at L63,690. In industrials, Fiat common shares added L81 to L12,830 and Montedison edged L10 higher to L2,550. Olivetti also featured with a L280 advance to L13,100.

Cement companies marched further ahead. Italcementi, part of the Pesenti group, picked up L1,000 at L96,000 and Italmobiliare rose L1,750 to L129,700.

Banks were mixed as Mediobanca rose L1,350 to L2723,350, but Credito Italiano fell L46 to L2,055.

Madrid fell broadly in a quiet and featureless session as investors stood off before Wednesday's municipal, regional and European parliamentary elections. The general index fell 2.40 to 223.35.

Banks led the declines. Banco de Bilbao was 30 percentage points lower at 1,367 per cent of nominal market value. Banco Popular fell 22 percentage points to 1,453 per cent.

Telefonica rose slightly against the market by 1 percentage point to 169¾ per cent. Chemicals weakened.

SOUTH AFRICA

A LATE rise in the bullion price rescued Johannesburg gold shares from listlessness caused by a higher financial rand to leave prices higher on the day. Institutional investors were also deterred by Friday's poor dividend announcement from Gencor, although the group's stock rose 25 cents to R57.50.

The announcement from Randfontein that political unrest would affect gold output pruned R3.00 from its share to R445.00 in a mostly higher sector. Bellwether Vaal Reefs rose R3.00 to R417.00, Freegold rose 50 cents to R54.00 and Driefontein gained 75 cents to R81.50. Kloof added 75 cents to R44.25.

Diamond issue De Beers followed golds upwards, by 15 cents to R39.00 and mining house Anglo American joined suit to add 75 cents to R79.75.

Industrials were quietly steady. Barlow Rand was still at R17.50. Sasol gained 75 cents to R11.70.

Mandarin's share price soars at HK debut

By Kevin Hamlin in Hong Kong

SHARE PRICES in Mandarin Oriental International, the hotel group spun out of Hongkong Land in a massive reorganisation by its parent, Jardine Matheson Holdings (JMH), soared to HK$5.20 (66 US cents) in first day trading on the territory's stock exchange yesterday. This is more than three times the HK$1.53 rights price and some 25 per cent above the company's net assets per share.

Turnover in Mandarin shares, at HK$104.5m, was the highest of all stocks yesterday, and 19.6m shares changed hands. Securities analysts had estimated that Mandarin would trade in a HK$4 to HK$4.50 band. Mandarin has net assets per share of HK$4.15, according to the rights issue prospectus.

HK Land shareholders were offered 80 per cent of Mandarin in a one-for-five rights issue earlier this year, while 20 per cent was sold to JMH's new holding company, Jardine Strategic Holdings (JSH), at market price. JSH took up its rights and holds a controlling 35 per cent of Mandarin. Some HK$750m was raised.

The listing of Mandarin, which follows last December's demerger of Hongkong Land's former food retailing division, Dairy Farm, completes the group's reorganisation. HK Land has consequently been pruned into a purely property company in a move that JMH says has released the company's hidden value to shareholders.

Mandarin has a portfolio of nine hotels: two wholly-owned, five with equity interest, and two managed. The Mandarin in Hong Kong and the Oriental in Bangkok are widely recognised as being among the best in the world. The company's net assets amount to just over HK$2bn, and it forecasts an after-tax profit of not less than HK$190m this year.

ASIA

Positive corporate news takes Nikkei to record

TOKYO

SELECTIVE small-lot buying helped drive Tokyo share prices to an all-time high yesterday, *writes Shigeo Nishiwaki of Jiji Press.*

The market lacked vigour as institutional and other investors retreated to await the effects of the Venice summit on foreign exchange and interest rates.

The Nikkei average of 225 select issues gained 150.68 points from last week's close to the new peak of 25,523.89. Volume was 678.47m shares compared with last Friday's 1.24bn shares. Advances led declines by 536 to 358, with 138 issues unchanged.

Trading volume fell in large capitalisation stocks which had performed strongly since the beginning of this year, reflecting a wait-and-see attitude among investors. Nippon Steel rose Y1 to Y360, but on trade of only 5.89m shares.

Other large-capital shares closed mixed. Mitsubishi Heavy Industries added Y7 to Y611 and Kawasaki Heavy Industries was Y3 higher at Y318, while Ishikawajima-Harima Heavy Industries ended Y2 lower at Y759.

Buying interest was weaker in export-oriented shares. Sony shed Y10 to Y3,210 and Hitachi finished unchanged from last week's close at Y1,070, NEC and Matsushita Electric Industrial gained Y10 and Y20 respectively with only 1.09m NEC shares and 1.15m of Matsushita changing hands.

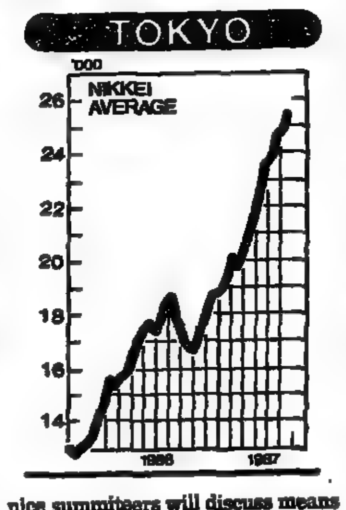
There was, however, strong selective buying of issues backed by good corporate news. Mitsubishi Electric topped the active list on trade of 38.24m shares and jumped Y20 to Y601. Its popularity reflected investor appraisal of its strong sales of big colour television sets.

Fujitsu surged Y50 to Y1,110 on the view that it is making gradual progress towards a settlement of its dispute with IBM of the US over a computer software copyright infringement. Fujitsu was the seventh most active stock on trade of 12.90m shares.

Mitsubishi Rayon, the second most active stock on trade of 20.61 shares, advanced Y10 to Y540. Central Glass rose Y35 to Y735 with 17.69m shares changing hands. Both were sought after as lagging issues within the chemicals sector.

Pharmaceuticals and biotechnology issues received renewed attention amid the likelihood that the Venice summiteers will discuss means to combat AIDS. Daiippon Pharmaceuticals rose Y50 to Y3,320.

TOKYO



Large food processors also fared well, with Ajinomoto Y80 higher at Y3,380 and Kirin Y70 up at Y2,970.

Onoda Cement, with 18.86m shares traded, rose Y20 to Y840 on the strength of plans to redevelop idle landholdings. Kurabo Industries ended Y13 higher at Y502 on rumoured buying of its stock by speculators. The recovering crude oil marked pushed Cosmo oil Y15 higher Y655.

Bond prices fluctuated in quiet trading. In early dealing the yield on the benchmark 5.1 per cent government bond, maturing in June 1996, slipped below 3 per cent to reach 2.990 per cent, supported by speculative dealer buying.

When the yield fell below 3 per cent, however, large sell orders were placed and the yield fluctuated in a range of 3.000 per cent to 3.050 per cent before ending the day at 3.020 per cent. The yield stood at 3.050 per cent at Saturday's close.

HONG KONG

HEAVY institutional buying helped Hong Kong share prices to a third successive record close after profit taking had trimmed early gains. The Hang Seng index closed up 3.73 at 3,088.06 but off the day's high of 3,096.13. Turnover fell to HK$1.42bn from Friday's HK$1.53bn.

Utility shares were among the front runners on strong US and Japanese institutional demand. Hongkong Telephone rose 50 cents to HK$13.90, China Gas 10 cents to HK$17 and China Light was a steady HK$23.

Properties, however, fell back slightly. Sun Hung Kai lost 40 cents to HK$16.70, New World fell 20 cents to HK$12.10 and HK Land 5 cents to HK$6.85 as the group's shareholders were offered a one-for-five rights issue.

Banks moved forward.

SINGAPORE

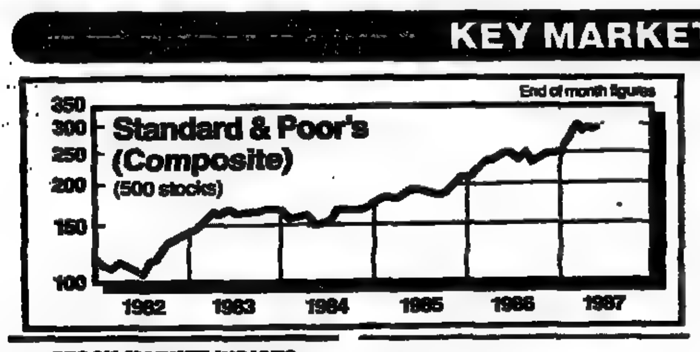
HEAVY SALES of Malaysian and blue chip issues as investors cashed in their profits pushed Singapore prices lower in record turnover. The Straits Times industrial index fell just 2.71 to 1,241.00, however, as the market absorbed much of the selling.

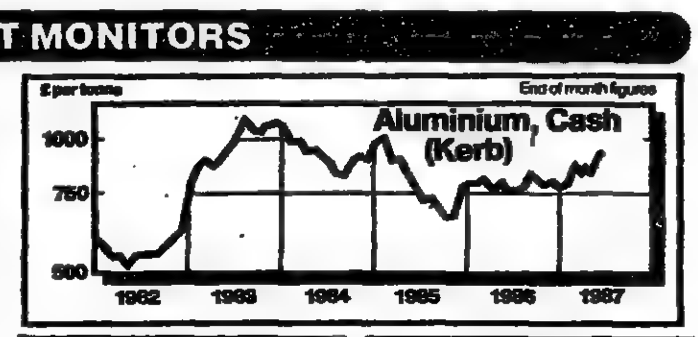
Turnover hit a new peak of 80.5m shares, up from Friday's 72.2m and above the previous high of 79.7m shares on May 14. Volume was swelled by the residue of a sale begun on Friday by the government's Temasek Holdings of a 10 per cent stake, or 15m shares, in Sembawang Shipyard. Sembawang, which will remain 64 per cent owned by the government, closed up 4 cents at S$4.04 with 15.8m shares changing hands.

Falling blue chips included Far East Levingston, by 10 cents to S$3.56, Genting, by 5 cents to S$6.70, Haw Par, by 4 cents to S$4.86 and Shangri La, which lost 5 cents to S$5.05.

In Australia, all markets except Perth were closed for a holiday.

KEY MARKET MONITORS





STOCK MARKET INDICES

	June 8	Previous	Year ago
NEW YORK			
DJ Industrials	2,351.64	2,326.15	1,885.90
DJ Transport	1,001.42	986.65	795.38
DJ Utilities	201.06	198.64	187.76
S&P Comp.	296.72	293.45	245.67
LONDON FT			
Ord	1,727.2	1,729.9	1,329.5
SE 100	2,228.4	2,228.8	1,611.90
A All-share	1,109.39	1,109.93	782.95
A 500	1,241.40	1,240.76	876.80
Gold mines	395.5	398.3	413.0
A Long gilt	8.85	8.88	9.17
World Act. Ind (June 5)	131.29	131.46	90.28
TOKYO			
Nikkei	25,523.89	25,271.30	17,008.3
Tokyo SE	2,195.28	2,181.01	1,316.29
AUSTRALIA			
All Ord.	closed	1,778.0	1,230.2
Metals & Mins.	closed	1,073.7	530.2
AUSTRIA			
Credit Aktien	closed	166.61	241.34
BELGIAN SE	closed	4,568.72	3,580.60
CANADA			
Toronto Met.& Mins.	2,849.6	2,836.4	2,219
Toronto Composite	3,729.3	3,728.1	3,080.7
Montreal Portfolio	1,862.36	1,862.98	1,576.28
DENMARK SE			
SE	closed	closed	227.80
FRANCE			
CAC Gen	closed	413.40	337.2
Ind. Tendance	closed	102.80	79.18
WEST GERMANY			
FAZ-Aktien	closed	578.55	641.10
Commerzbank	closed	1,749.90	1,587.5
HONG KONG Hang Seng	3,068.06	3,084.33	1,747.09
ITALY Banca Comm.	701.49	697.40	741.30
NETHERLANDS ANP CBS			
Gen	closed	267.0	267.0
Ind	closed	245.5	278.9
NORWAY Oslo SE	closed	—	346.20
SINGAPORE Straits Times	1,241.00	1,245.71	691.86
SOUTH AFRICA JSE			
Golds	—	2,076.0	1,247.7
Industrials	—	1,878.0	1,167.4
SPAIN Madrid SE	223.35	225.75	176.78
SWEDEN J & P	closed	2,636.80	2,415.47
SWITZERLAND Swiss Bank Ind	closed	585.90	580.6

COMMODITIES (London)

	June 8	Prev
Silver (spot)	479.20p	482.20p
Copper (cash)	£957.50p	£956.75
Coffee (July)	£1,293.50p	£1,304.00
Oil (Brent)	$18.825	$18.75

GOLD ($/oz)

	June 8	Prev
London	$455.75	$454.25
Zürich	$454.75	$452.75
Paris (fixing)	closed	$450.18
Luxembourg	$455.55	$448.45
New York (August)	$454.30	$458.80

CURRENCIES (London)

	US DOLLAR June 8	US DOLLAR Previous	STERLING June 8	STERLING Previous
$	–	–	1.6390	1.6310
DM	1.8045	1.8135	2.9527	2.9575
Yen	143.40	143.70	235.0	234.50
FFr	6.0350	6.0650	9.8925	9.8925
SFr	1.5005	1.5030	2.4600	2.4525
Fl	2.0325	2.0430	3.3325	3.3325
Lira	1,307	1,313	2,142	2,141.5
BFr	37.30	37.60	61.15	61.35
C$	1.3425	1.3485	2.2016	2.1925

INTEREST RATES

	June 8	Prev
Euro-currencies (3-month offered rate)		
£	8⅝	8⅞
SFr	4	4
DM	3⅝	3¹¹⁄₁₆
FFr	8⁵⁄₁₆	8⅝
FT London Interbank fixing (offered rate)		
3-month US$	7⅛	7⅛
6-month US$	7⁵⁄₁₆	7⅜
US Fed Funds	6¹¹⁄₁₆*	6⅝
US 3-month CDs	6.80*	7.125
US 3-month T-bills	5.65*	5.84

FINANCIAL FUTURES

	Latest	High	Low	Prev
CHICAGO				
US Treasury Bonds (CBT) 8% 32nds of 100%				
June	91–19	91–22	90–19	91–04
US Treasury Bills (IMM) $1m points of 100%				
Sept	93.56	93.62	93.42	93.53
Certificates of Deposit (IMM) $1m points of 100%				
June	n/a	n/a	n/a	93.20
LONDON				
Three-month Eurodollar $1m points of 100%				
June	92.77	92.77	92.70	92.76
20-year Notional Gilt £50,000 32nds of 100%				
June	126.09	126.09	126.07	126.06

US BONDS

Treasury

	June 4 Price	June 4 Yield	Prev Price	Prev Yield
7⅛ 1989	100⁹⁄₃₂	7.65	100¹¹⁄₃₂	7.756
7 1994	92¹⁵⁄₃₂	8.381	92¹⁵⁄₃₂	8.43
8⅜ 1997	99¹⁵⁄₃₂	8.508	99¹⁵⁄₃₂	8.579
8¾ 2017	100¹⁵⁄₃₂	8.67	99¹⁵⁄₃₂	8.758

Source: Harris Trust Savings Bank

Treasury Index June 4

Maturity (years)	Return Index	Day's change	Yield	Day's change
1–30	163.17	+0.23	6.93	–0.03
1–10	154.63	+0.12	6.66	–0.03
1– 3	144.03	+0.07	6.37	–0.03
3– 5	157.57	+0.17	6.71	–0.03
15–30	193.58	+0.59	7.78	–0.08

Source: Merrill Lynch

Corporate

	June 8 Price	June 8 Yield	Prev Price	Prev Yield
AT&T 3⅛ July 1990	93.11	6.40	93.09	6.40
SCBT South Central 10⅞ Jan 1993	102.25	10.34	103.25	10.11
Philbro Sal 8 April 1996	91.42	9.45	91.41	9.46
TRW 8⅞ March 1996	96.16	9.40	95.59	9.50
Arco 9⅞ March 2016	101.17	9.75	100.21	9.85
General Motors 8⅝ April 2016	84.00	9.80	83.97	9.80
Citicorp 9⅝ March 2016	91.07	10.35	90.23	10.45

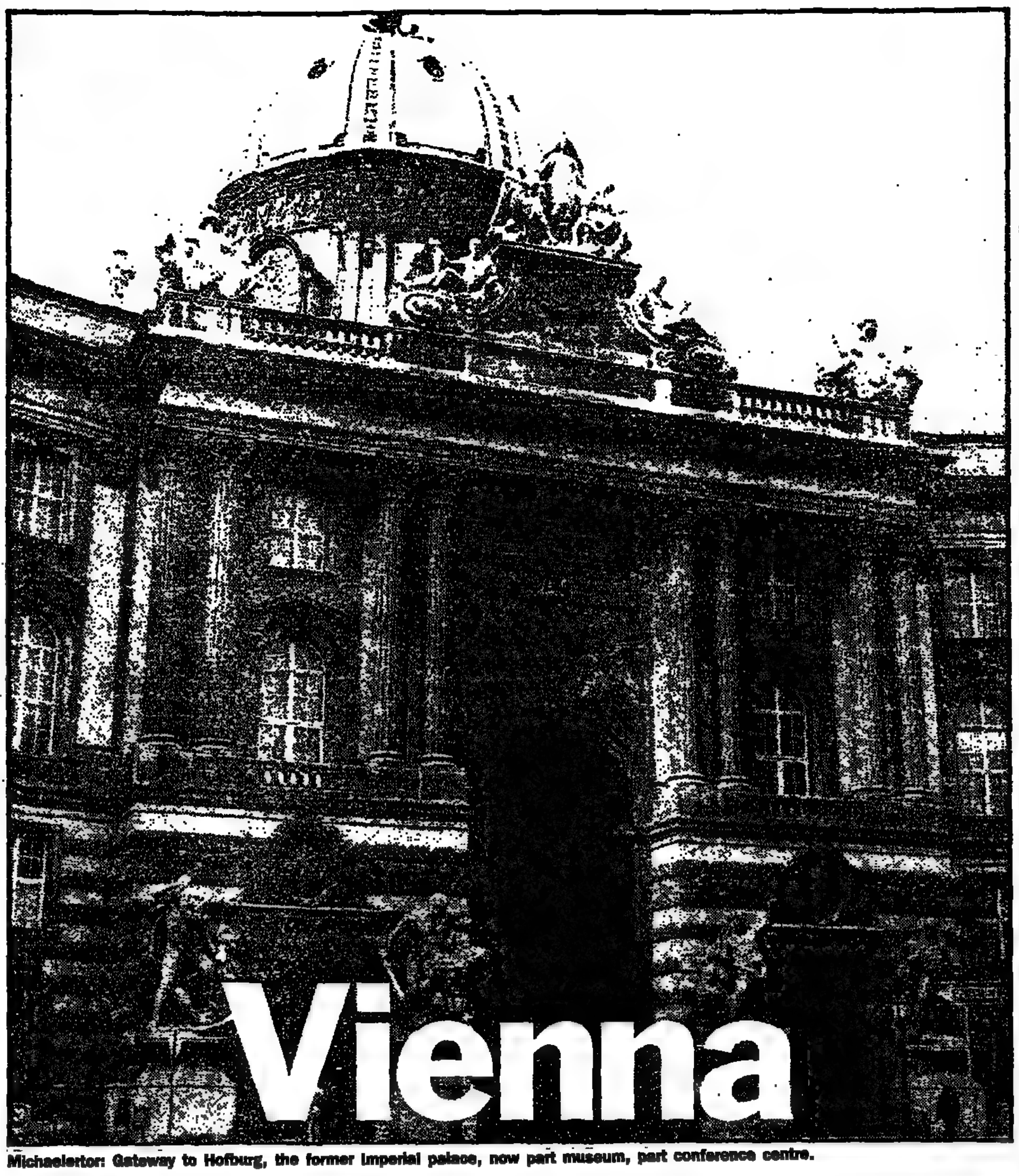
Source: Salomon Brothers

* Latest available figures

SECTION III

FINANCIAL TIMES SURVEY

Opposites meet in the Austrian capital: East and West, urbanity and provincialism, baroque glories of empire and the first stirrings of modern building, deep conservatism and municipal socialism. **Patrick Blum** reports on a city fighting to maintain a role and to protect its prosperity.



Michaelertor: Gateway to Hofburg, the former imperial palace, now part museum, part conference centre.

CONTENTS

City where the past lives on

MODERN VIENNA is a city of contradictions and conflicting aspirations. It is inhibited by its past but comforted by tradition and imbued with a deep-seated conservatism. "Vienna looks to its past with optimism," was the caustic phrase of one young Viennese official. This is not entirely fair, but it points to the source of much resistance to change.

Once the administrative hub of a vast empire of some 55m people of 11 nationalities, Vienna adapted only with great difficulties to a much reduced role after the collapse of the Austro-Hungarian monarchy at the end of the First World War. The scars inflicted by civil war, Nazi annexation to Germany, the Second World War and the ensuing occupation of the city by Allied and Soviet forces, have not entirely healed. They have also encouraged a tendency to seek refuge in nostalgia for the pomp and circumstance of imperial times.

The Viennese obsession with ceremony and protocol—gradations of status are meticulously followed—predates the republic and harks back to the days when thousands of civil servants in Vienna administered the Habsburg lands that now form part of neghbouring states.

Vienna's situation has made it a crossroads between the northern Baltic and the Adriatic in the South and between East and West along the Danube with a long history of conflict and settlement dating back to Roman times when, as Vindobona, it underwent rapid economic development.

In the 16th and again in the 17th century it withstood and repelled sieges by Turkish forces halting the westward drive of the Ottoman Empire.

The Congress of Vienna which ended in 1815, marking Napoleon's defeat, established a new European order and with it Vienna's reputation for international diplomacy. Viennese politicians have in recent years sought to revive that reputation by making their city an international centre of East-West dialogue and contact.

Since the signing of the Austrian state treaty in 1955 which marked the return to full sovereignty after the war and ended 10 years of occupation, Vienna has played host to numerous East-West summits and mini-summits as well as to a large number of international conferences. Austria's neutral status has helped.

Politicians believe that Vienna's historical heritage and unique central European location can also help to build links with Austria's communist neighbours. Dr Helmut Zilk, Vienna's Socialist mayor, believes that a new lift can be given to relations between his city and neighbouring capitals, but that small steps are better than large and meaningless gestures. Dreams of the monarchy are out, he says.

Steps that can be taken include improving communications and transport links between Vienna, Prague and Budapest and simplifying border crossings to encourage economic and cultural exchanges. More ambitious, perhaps over-ambitious, plans include staging a World Fair jointly with Budapest in the mid-1990s.

Efforts to make Vienna an international city have borne fruit in other directions. During the 1970s Dr Bruno Kreisky, then Chancellor, pushed ahead with several controversial projects. He fought hard and successfully to attract General Motors—then looking for a new European manufacturing site—to Vienna both to provide jobs and to underpin western commitments to the Austrian capital.

The amount of state funding extended to GM and for subsequent projects drew strong domestic criticism.

A vast office complex, known locally as Uno City because it is the home of several United Nations organisations, was built on the northern banks of the Danube making Vienna the third largest UN centre after New York and Geneva.

In May a new international conference centre was opened just next door to the UN buildings. The centre has met opposition from the conservative People's Party which says that it will lose money and argues that Vienna has enough conference venues including a more glamorous one in the Hofburg, the former Imperial Palace.

Conference business makes an important contribution to the financial health of Vienna's tourist industry and hotels especially during the low season between November and March. With about two million foreign visitors every year, tourism is an important source of revenue.

About one fifth of Austria's population lives in Vienna making it the country's most important economic centre. It has a large manufacturing base including major multinationals such as GM, Philips and Siemens which have found their Austrian base profitable. Both GM and Philips have recently expanded their activities.

The emphasis is now moving away from large-scale investments to smaller ventures in much sought after new technologies and high-tech research. Two new ventures in these fields have recently been agreed.

Dr Zilk has sought to cut red tape to encourage investment but faces tough competition from other parts of Austria, especially from the western provinces, which are closer to the increasingly important west European market.

The continued divide between the high growth western and less dynamic eastern parts of Austria remains a source of concern in Vienna.

The city authorities hope to compensate for these drawbacks by building on Vienna's traditional reputation as centre of expertise in East-West trade. Recent improvements of East-West relations are welcome in Vienna which hopes to gain from any new momentum in trade with the Comecon. Creditantsalt-Bankverein, the country's largest bank, recently opened an office in Prague and is opening one in Moscow soon with this in mind.

Whether business with Austria's eastern neighbours will be sufficient to compensate for Vienna's position on the fringes of western Europe is debatable. East-West trade has suffered some sharp reverses from the fall of prices for oil and other raw materials and from the lack of hard currency revenue in the Comecon countries.

The city faces other problems. Its population is ageing and declining. Its universities and the freer lifestyle still attract young Austrians, but the limited career opportunities drive many graduates to leave the capital. The town has livened up considerably in recent years but most younger Viennese continue to look with envy to London, Paris or New York which they think less stuffy.

The cultural achievements of turn of the century Vienna and of the years immediately following the First World War stand in sharp contrast to the more purely material achievements of recent years. These earlier achievements are widely admired, yet it is too often forgotten that they were produced in the teeth of fierce opposition. Gustav Mahler and Sigmund Freud were hounded out of Vienna.

Pre-war violence was followed by post-war reconstruction with its seedier side immortalised by Orson Welles in the film The Third Man showing survival at the margins under the indifferent eyes of the four occupying powers. The attitudes of several generations were shaped in those difficult years. The fear of renewed conflict laid the ground for Austria's present day system of social consensus which can make for bland rather than constructive policies.

"Red Vienna" as it became known, was a model of social welfare for the rest of Europe. In the 1920s the city built much needed council housing and established a mass health care system for the bulk of the population. Diseases caused by appalling social conditions were eradicated, but these achievements were not matched in other areas. Democracy remained skin deep and died in the civil war of 1934.

By the time of its demise in 1918 the Habsburg monarchy had long become an empty shell, but its disappearance left a vacuum that was not filled by Austrian social democracy with its emphasis on pragmatic reforms and the development of municipal socialism.

There remains an air of unreality about Viennese social and political life. The gap between individual aspirations and the many many survivals from an old-fashioned, hierarchical society is inherited from a past which remains to this day an important part of the city's present. Overcoming that past is still a major challenge for the city fathers in their neogothic town hall completed just over 100 years ago.

Centre for counter-trade

The East-West business

IT IS SAID that the names in the Vienna telephone book read as a potted history of central Europe. It may be a cliché but it provides a vivid example of the strong links that still exist between modern Austria and the lands that once formed part of a vast empire.

It is such links, maintained despite the division of Europe into eastern and western camps, that have enabled neutral Austria sandwiched in between, and more especially Vienna, to become a major strategic listening post for East-West trade and counter-trade.

A large number of international companies have been drawn to the Austrian capital to take advantage of local expertise as well as of the many, small but sometimes crucial, benefits that can be gained by having a base there. In addition to qualified and experienced East European specialists, numerous services from translators to couriers are available. An urgent translation of a key document into or from Bulgarian, Hungarian, Russian, Czech, Slovak, or Serbo-Croat, among others can be done promptly and efficiently.

Communications with Eastern Europe are easier than anywhere else in Western Europe—Bratislava, Prague, Budapest are all within a few hours' drive from Vienna. There are regular daily railway and airline services to most East European capitals and there is plenty of information available about travel, business conditions, on where to stay and on the do's and don'ts of doing business in the Comecon.

Dr Alexander Waldstein, managing director of AWT, the trade and counter-trade subsidiary of Creditanstalt-Bankverein, says that Vienna offers four major advantages:

- It is physically near the market.
- It has the personal contacts necessary for what he describes as "very much a people's business."
- There is a cultural affinity which he believes makes it easier for a Viennese to establish an understanding with other East Europeans than for other people.
- Many East European companies are located in Vienna or have representatives there.

International concerns from Western Europe, North America and the Far East settle in Vienna or employ the services of Viennese companies because it gives them an advantage over competitors elsewhere, although last year the sharp decline in East-West trade saw several close down their offices in the Austrian capital.

Austrian trade with Eastern Europe, which tends to reflect closely broader trends in East-West trade has not escaped the down-turn. Austrian exports to the European Comecon countries declined by over 15 per cent in 1986 to Sch 33bn, representing 9.6 per cent of all Austrian exports—the lowest share since the signing of the Austrian state treaty in 1955 which gave Austria back its independence.

According to Dr Jan Stankovsky from WIFO, the Vienna economic research institute, initial results for this year show no improvement. Austrian exports fell by almost 30 per cent in the first three months compared with the same period in 1986.

He attributes the decline to low price levels for raw materials and oil—the main export from the Soviet Union—and to an enduring need for the East European countries, including the Soviet Union to curtail imports in hard currency or make these dependent on exports to the West.

Nevertheless, despite the downturn Austria did relatively better than most of its competitors last year by increasing by 7 per cent its market share in Eastern Europe among the group or among members of the Organisation for European Co-operation and Development.

Dr Stankovsky believes that there will be a growing demand for countertrade from eastern Europe. Countertrade is estimated to represent between 12 per cent and 15 per cent of Austrian exports to eastern Europe and the share is expected to rise as east European countries seek to maximise their exports of manufactured goods to the West.

International companies are often very experienced in trading with eastern Europe but they seek advice and assistance from Viennese firms to "maximise" their business chances, Dr Waldstein says. This is especially true for the more complex transactions in which the expertise of Viennese institutions is internationally recognised.

Viennese countertrading firms says that their success is due at least partly to their flexibility and to their willingness to innovate. AWT, for example, says it is currently negotiating a major countertrade deal that, because of its size and structure, could break new ground in trade with the Soviet Union. Many countertrade techniques which are now used world-wide were pioneered in East-West trade and trade financing out of Vienna.

Established countertrade techniques include barter—the direct exchange of goods and or services—which is the simplest form, and counter-purchase—the most widely used form which requires the exporter to accept part payment in kind for his goods.

Buy-back—a long-term form of barter regularly used in trade with the Soviet Union and many East European countries—requires suppliers of plant or equipment to accept payment in part or fully in deliveries from the future production of the investment involved.

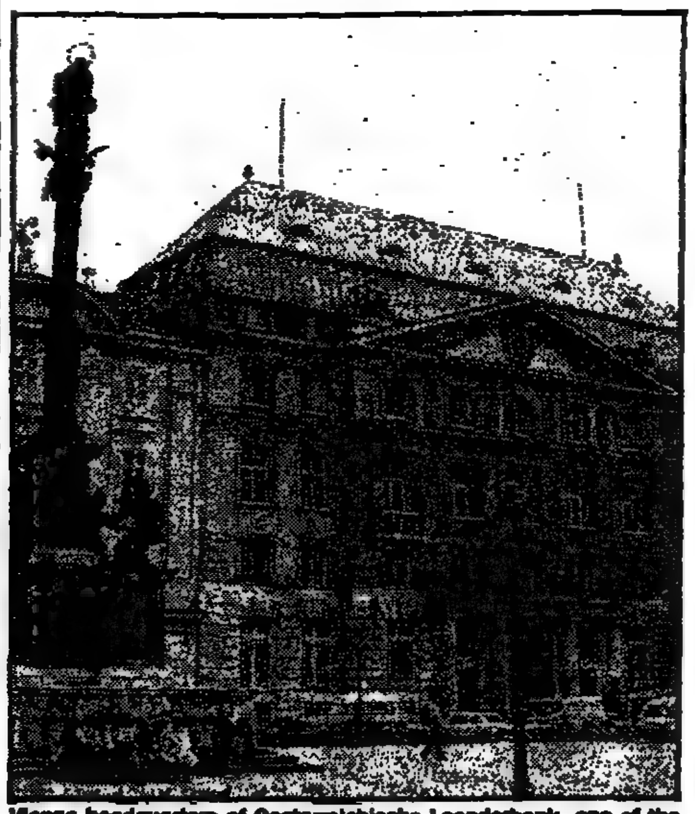
Switch trading is mainly used in correcting imbalances in long-term bilateral agreements and often involves complex tie-ups between buyers, sellers and brokers in different markets. In switch trading one eastern country's trade surpluses with another eastern country can be made convertible to pay for imports from the West.

The country making the balances available is compensated with imports from outside Comecon. Finding these imports and constructing an appropriate financial package is the switch trader's main skill.

Countertrade developed mainly because of the non-convertibility of local currencies and as a way to overcome shortages of hard currency to pay for imports. The lack of efficient sales organisations and the limited choice or low quality of products for export have also encouraged many countries to resort to countertrade as a means to market their goods. Despite some improvements most of these problems persist and countertrade demand is likely to remain high.

For historical reasons London has better and more experienced commodity traders than Vienna, Mr Waldstein says, but when it comes to countertrade Vienna has the greater expertise, built on decades of trading and dealing with eastern Europe.

Patrick Blum



Vienna headquarters of Oesterreichische Laenderbank, one of the two state-owned Austrian commercial banks.

Financial services

The little bang

AUSTRIA had its rather muted equivalent of the London City's Big Bang as long ago as 1979, but ambitions then occasionally harboured to nurse Vienna into one of Europe's financial centres have faded away. Viennese banks are recognised players on the Euromarkets scene and Austrian borrowers are welcome, but Vienna does not rank with the Zurichs or Luxembourgs of the financial scene.

The little bang of 1979 came through a reform of banking law which tore down the barriers between most existing groups of credit institutions and allowed all of them to apply for licences to function as universal banks on the German and Swiss model. Subsequently the deregulating spirit of the legislation was modified by the introduction of what in effect are cartelised interest rates for both bank liabilities and assets.

Current legislation does not discriminate between foreign and native-owned banks. Anyone may apply to the Ministry of Finance for a banking licence and present practice is to handle such applications liberally though on a case-to-case basis. By now about 20 non-Austrian banks are represented in Vienna either by affiliate banks, branches, or by shareholdings above 25 per cent in an Austrian credit institution.

The narrowness of Austrian financial markets can be gauged from the fact that about 40 per cent of the assets and libilities of the country's biggest three banks—Creditanstalt-Bankverein, Girozentrale, and Oesterreichische Laenderbank, all of them with headquarters in Vienna, are in currencies other than Austrian. More limited testimony to the international links of the Austrian financial system is provided by the fact that 8 to 10 per cent of new Austrian bond issues are placed abroad.

Two years ago the Vienna bourse created a small stir with a sudden bull run which was helped along by the narrowness of the market. The aggregate market value of Austrian equities and quasi-equities (such as participation certificates) held by independent Austrian shareholders is only around Sch 25bn (plus another Sch 5bn held by independent investors abroad) and the number of small shareholders in Austria is estimated to be only about 150,000 to 200,000 or about 2 to 2¾ per cent of the population. Some 50,000 of these are thought to have taken the plunge in 1984-86

Limited though this revival of the equity was, it encouraged new issues and listings with a market value of Sch 1.6bn last year. The bourse may gain further scope from the privatisation plans of the Austrian Government.

In the autumn, private investors are to be invited to subscribe to the flotation of a minority stake in the Government-owned oil company, OEMV. Much will depend upon pricing and other circum stances. With some Sch 900bn in private savings accounts, there is money around to invest.

W. L. Luetkens

Profile: Simon Moskovics

Switching clever

VIENNA'S REPUTATION as a centre of expertise for East-West trade owes much to the work of a few persistent individuals who, with a mixture of opportunism and foresight, have built successful businesses that have become internationally known.

Mr Simon Moskovics, a wily 72-year-old Hungarian-born trader, banker and fixer, now head and major shareholder of Vienna's Bank Winter, saw opportunities where others saw obstacles. Today he is regarded as an "eminence grise" of compensation trading and one of the originators in the tricky business of switch transactions and forfaiting. His bank has acquired a reputation for innovation, especially for handling complex deals.

He has come a long way since the day in April 1949 when as a youngish man in his mid-thirties he left his native Hungary for Vienna after the communist takeover in his country. "I thought there would be more opportunities in a free enterprise environment," he says.

His father ran a modest bookshop in Debrecen, western Hungary, where he was born and at 15 he used to scour the town in search of cheap books for the shop.

Later he worked out several cost-cutting schemes to produce locally some of the books originally imported from Poland and Czechoslovakia. What these first experiences taught him, he says, is the power of "the small idea" carried through with perseverance.

In 1936 he struck one of his first major deals which involved selling Italian oranges through Hungary to Poland in return for Polish horses for Italy. Each transaction had to be paid separately with payments including a large number of hairnets channelled through Paris. It was a forerunner of many similar post-war deals.

In 1959 after several years on his own he bought up and re-established the Bankhaus Winter, defunct since 1938 after the Nazi annexation of Austria. He says that he needed a bank to handle a growing volume of business built up in compensation trade.

Switch arrangements under which clearing payments for trade between two countries are used for payments to third parties had become increasingly common. "After the war without switch you couldn't do any business in Eastern Europe or China, and it was important to know the business well."

He saw his chance and gradually acquired a reputation as a leading switch dealer. "Large banks in Britain and Switzerland sent me their clients to help them with this type of business," he says.

The bank has since flourished with assets worth Sch27.9bn on July 1 1986 and earnings before tax and allocations to reserves of Sch153m for the six months compared with Sch231m for the whole year of 1985.

The bank's financial year was changed from December 31 to June 30 following its transformation last year into a joint stock company with a paid-up capital and reserves of Sch1.6bn including Sch300m in supplementary and subordinated capital. Mr Moskovics holds 25 per cent of the shares and the rest is held by foreign shareholders.

The bank, he says, has always sought top quality clients and one of the reasons for its success is that it has been able to provide creative ideas to solve apparently impossible problems. In the present climate of financial uncertainty world wide this is increasingly important, he says. There was another reason. "I was trusted and I didn't seek personal publicity or prestige. Discretion is very much appreciated in these countries."

Trade financing remains a major business activity for the bank with an average volume of annual transactions of about Sch 7bn. Merchant banking, however, including what Mr Moskovics' son Thomas, describes as financial engineering—solving difficult problems for individual customers—is becoming an increasingly important part of the bank's activities.

Other business involves dealing in precious metals such as gold and silver, although sales of gold coins which hit a record in the mid-1970s have declined.

The bank also has an interest in several international and Austrian financial institutions.

Despite diversification into new areas of activity, Mr Moskovics' own experience and intimate knowledge of Eastern Europe, continue to attract much business to the bank. The bank has had a large and growing number of inquiries recently about joint ventures in eastern Europe. "People want to know what is practical and possible and we advise them."

He believes that joint ventures in eastern Europe remain at an experimental stage and that there are still many technical problems to be resolved. Finance alone cannot ensure success, he says. "To work, a joint venture needs the free movement of people as well as of money," he says.

Caution is important, he says. "We don't have any Latin American or African debt although we've solved major problems in these regions." The bank always seeks to minimise risk, he says.

With his son firmly in the saddle as number two in the bank, Mr Moskovics could contemplate a quieter life, but he dismisses any idea of retiring. "I have an 87-year-old friend who is pushing me to go into a new business with him in Luxembourg. So why should I retire?"

Patrick Blum

Industry

Incentives on tap for brainwork

VIENNA IS both better and worse off than the rest of Austria, itself one of the more prosperous countries of western Europe. Better off because, lacking all but a tiny bit of agriculture, mainly a few vineyards, it has a gross regional product per head higher than the Austrian average: worse off because, for historic reasons, Vienna shares with the rest of Eastern Austria a less than average growth rate.

Unemployment, which averaged 4.8 per cent last year, is about one percentage point below the national average.

A population of about 1.6m, equivalent to about 20 per cent of the Austrian population, produces about 27 per cent of total Austrian output, making Vienna the largest single market within Austria and one of more than average purchasing power. The dominating position of West German exports in Austria, especially those of consumer durables, is well known. But the Viennese bourgeois are a little less German-oriented than the rest of the country.

Wholesale and retail trade in Austria often have quasi-cartel characteristics. For the outsider and newcomer the way in may not always be easy. The search for market openings and for agents can be simplified with the help of the Federal Business Chamber (Bundeskammer fuer gewerbliche Wirtschaft), in which all businesses, and hence also the importers, are represented.

For the intending investor in Austria, the city has a special agency Wiener Wirtschaftsfoerderungsfonds, which is in the business of attracting new ventures. It has a land bank of more than 2m sq metres from which it makes plots available at what are likely to be heavily subsidised rates. This agency complements the Federal Government's industrial co-operation and development agency (ICD).

In the past the city and government have taken on between a quarter and a third of the investment costs of such, by Austrian standards large, undertakings as a US$700m General Motors engine and gearbox plant at Aspern, in the outskirts of Vienna, plus a Sch1.2bn extension, and a Sch2bn plant constructed for the Philips concern in addition to its existing facilities in Austria.

Chief manufacturing industries—1985

	Output Sch (m)	Employment 1,000 pers
Food, drink, tobacco	21,802	15.2
Electrical engineering	21,219	34.3
Chemicals	12,684	12.4
Mechanical engineering	11,353	14.4
Motor and other vehicles	9,953	9.3
All manufacturing	98,869	111.8

Source: City of Vienna

These and other, smaller, ventures were subsidised in a conscious effort to combat unemployment. Lately the emphasis has begun to change. Mr Hans Mayr, city councillor in charge of finance and business, is anxious to attract more research and development to Vienna rather than mere branch plants.

This is a matter of priorities and an attempt to make use of the intellectual resources of the Vienna universities, but also a reaction to the fiscal problems of the Federal Government. High priority has been given to reducing the chronic budget deficit, and resources for industrial incentives need careful husbanding.

At the moment, the city fathers are especially proud of two new ventures for research and development: a joint US-West German-Austrian venture for gene-technology, molecular biology and biochemistry, which city and federal governments are subsidising with Sch170m; and a facility for preparing for commercial production a highly specialised sensor designed by a team led by Professor Otto Prohaska at Vienna Technical University.

The commercial partners in the former venture are Genentech, of Los Angeles, and the Austrian affiliate of a German concern, Boehringer Ingleheim. They will link up with Vienna University which is transferring three professorships to the new centre and founding two additional ones. The brief is basic gene-technological and pharmaceutical cancer research.

In the interest of interdisciplinary cross-fertilisation Prof Prohaska's outfit will be lodged by the new institute. His sensor is able to trace electrical currents in a three-dimensional pattern and can be used, for instance, to locate tumours in the brain or to track what happens in the combustion chamber of a petrol engine.

Apart from the intermediate aim of providing employment and innovation, the broader objective of the incentives proffered by the city of Vienna is to help close the growth gap between eastern and western Austria. The reasons advanced for its existence include the fact that eastern Austria was occupied by the Soviet army after the Second World War, even though the Russians left more than 30 years ago and the relative distance of the region from the growth centres of West Germany, Switzerland and Italy despite the fact that western Austria with its better showing, is less than two hours' motorway drive further west than Vienna.

Mr Norbert Geldner of the WIFO economic research institute in Vienna also blames a lack of entrepreneurial and innovative drive in the eastern regions. The Vienna elite was brought up to march in step rather than to steal marches, he argues, and that attitude still is widespread. It is a bit reminiscent of what used to be said about Britain, at least in pre-Thatcher days.

It is true that the presence of a group of multinational concerns has helped greatly to keep Viennese manufacturing industry buoyant. Even after a period of shrinking, it still accounts for a quarter of total activity in the capital. General Motors and Philips have already been mentioned, but there are others, such as Siemens from West Germany and Unilever as well as the three major West German chemical companies.

Some of these are in Vienna for historical reasons, others have come more recently. The reasons for doing so varied from case to case. In certain instances, the subsidies on offer may have been the deciding factor. But the proverbial labour peace in Austria is cited by many of the foreign investors.

Native technology is akin to that of the Germans, productivity in general below theirs, but that is compensated for by lower labour costs. That is true even after allowing for very generous fringe benefits usual in Austria.

Originally Vienna was mainly a springboard into the not especially large Austrian market. Austrian membership in the European Free Trade Association (Efta) and the existence of a treaty for the duty-free exchange of industrial goods with the European Community have widened the scope.

But the fact remains that Vienna is close to the periphery of western Europe, and, for that matter, of Austria. The city fathers are aware of that and are trying to find a compensating advantage in Vienna's proximity to eastern Europe. Vienna has for long been used as a base for eastern European operations of a number of western concerns. The thaw of the Gorbachev era may come as a help.

Philips, for instance, has lately undertaken a joint venture between its Austrian company and a business in Bratislava, slightly over an hour's drive away across the Czechlovak border. Certain white and brown goods are to be made in Bratislava for the eastern European market.

An attempt is under way to give a boost to such East-West co-operation by staging a world's fair in 1996 jointly at Vienna and Budapest. Dr Erhard Busek, deputy mayor of Vienna, says with a sly grin: "If the big boys co-operate—why shouldn't the small fry?" But so far at least neither the money nor the political blessing of Moscow are assured.

In any case, while the eastern European connection does offer Vienna an element of comparative advantage, it is limited and Austrian industry pins greater hopes on tightening its relationship with the European Community.

W. L. Luetkens

Profile: The Mayor

Job for a lifetime

Dr Helmut Zilk

DR HELMUT ZILK, the Socialist Mayor of Vienna, has one of the plummiest jobs in Austria. As mayor he presides over the affairs of the country's most important city and as a socialist he is practically guaranteed a job for life since Vienna has been a traditional heartland of the Socialist Party commanding healthy majorities in local elections.

The recent decline in the party's popularity nationally is not expected to end its dominance in the Vienna elections due next year.

A former minister responsible for the arts until his appointment as mayor after a government reshuffle in September 1984, he has brought to his job a characteristic dash of showmanship. As minister he was often seen at opera and theatre premieres. He maintained and has continued to maintain a high public profile to the annoyance of critics who accuse him of meddling and of constantly seeking the limelight.

In his short spell as minister he entered into a prolonged public quarrel with Lorin Maazel, the American conductor and at the time director of the Vienna State Opera, over the running of the opera. The row did nothing to polish the Government's image and may well have had to do as much with Dr Zilk's headstrong and flamboyant personality as with the way the opera was being administered.

For all that, he has proved a popular mayor and remains highly placed among Austrian politicians in the public popularity stakes despite critics, even within his own party, accusing him of failing to clean up and cut beaucracy in Vienna's public administration.

A proponent of more open and more liberal government he has supported moves favouring a "grand coalition" of Socialists and of the conservative People's Party in the city government to tackle pressing problems.

They centre especially on the provision of services which to any outsider from London, New York or Paris may look remarkably efficient and well run, but which to the Viennese show signs of creeping paralysis. There was considerable discontent during the winter about the slow pace at which snow was cleared.

In fairness it must be said that snow was removed from all the main streets and public transport services were maintained without a noticeable break throughout the worst of the winter's weather, but there were delays and snow drifts piled high in side streets caused considerable public annoyance.

Vienna has extensive public services, a large and well maintained public housing sector and substantial health facilities, most of which were established after the First World War under the impetus of what became known as "municipal socialism." Dr Zilk says that the transformation of the Austrian capital in those years shows what can be done. Providing for welfare is clearly at the heart of his own vision of socialism.

"Vienna is a welfare city-state in which no one should go hungry or be without a roof," he says. The recent rise of unemployment to about 4.8 per cent troubles him, but he says, it is still below the rate in most other European cities.

Dr Zilk wants to see the city develop its role as an international centre of East-West contacts—building on its history with new ideas. He believes that it is possible to give a new impetus to relations between Vienna, Prague and Budapest by increasing exchanges and simplifying travel.

Austria and its neighbours all stand to gain from closer links, he says, although, as in other issues, he remains a pragmatist convinced that small steps are more likely to succeed than large gestures when it comes to practical politics.

Patrick Blum

Profile: Deputy Mayor

Bird of many colours

Dr Erhard Busek

DR ERHARD BUSEK, deputy mayor of Vienna, is in a position which might have taxed the imagination even of a W. S. Gilbert. Dr Busek is both a member of the government of the Austrian capital with its 1.5m inhabitants and leader of the opposition in the city council.

In oversimplified terms he owes this quirk of Austrian consensualism to one law which says that minority parties, in his case the conservative People's Party, should be represented in the Vienna government in keeping with their strength: and to another which says that portfolios are allocated by majority vote in the council, in this case by the socialists. So Dr Busek and four other People's Party members sit in the government of Vienna with no specific jobs and only limited influence.

Having to do the splits in this fashion has not deprived Dr Busek, at 46 a member of he younger generation in Austrian politics, of his ready chuckle and a willingness to take unorthodox stands. He has been nicknamed "bird of many colours" because, though a member of the "black" People's Party, he has publicly espoused "green" causes.

For instance, he says that Vienna ought to use its market power to discourage the use of the quantities and types of packaging that all too readily overburden refuse disposal services. Dr Busek opposes harnessing the Danube near Vienna for hydroelectricity—a proposal dear to the trade unions as a creator of jobs—since, he says, power can be bought in more cheaply, unless the project is part of a wider plan to create a more pleasant urban environment on areas along the river that are now wasteland.

Since Vienna is home to about a fifth of the Australian population, Dr Busek's position as People's Party leader in the city is important in national politics as well. He is a deputy leader of the party, the second largest in the country and junior partner in the Federal coalition Government.

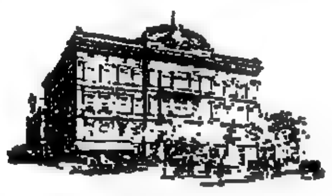
Quite apart from his green tinge, he often jars on the traditionalist conservative views of many People's Party personalities with his continental-style liberalism (which they suspect is radicalism). "I believe we need a climate more favourable to encouraging performance, a climate less favourable to state intervention, better quality all around and a more internationalist outlook," he says.

For Dr Busek the municipal politician that means greater emphasis upon attracting research and development work to Vienna and less on subsidising the setting up of new manufacturing industries. It also means more decentralisation within the city and less interference from an officialdom of which he says it believes it always knows best.

The city must come to an understanding with the surrounding state of Lower Austria for more co-operation. One abuse clearly in his mind is the occasional subsidy race to attract new investment. Co-operation, he says, is also needed to overcome the post-war pattern which has caused the economies of Vienna and the rest of Eastern Austria to grow more slowly than the Austrian west.

With a sideswipe at the quasi-cartelisation of much business in Austria, Dr Busek says: "We have a competitive market system that is not really competitive," and in another context he says bluntly: "People here just like to stick at home." Dare he say so to his voters? "So far it has caused me no problems. I believe that at least the young are prepared to listen." And again, politicians should "not howl with the masses or with the press", but say plainly what needs to be done.

W.L. Luetkens



In the cultural field quality does not come cheaply

Where the arts still count

THE VIENNESE love a good old-fashioned row about music and the arts. Public opinion, or that part of it which gets into the papers, got worked up about the appointment of Mr Claus Peymann as director or the Burgtheater, the National Theatre, and his reluctance to paper the house by issuing free tickets to deserving colleagues and officials, selling cheap tickets to young people instead.

The Viennese savoured the struggle which ended in the resignation of Lorin Maazel as director of their opera house and they waxed suitably indignant about the leaky roof of the Kunsthistorisches Museum, the Museum of Fine Art.

Partly it is sporting interest in scandal and conflict. But it also demonstrates the importance attached to the arts. One should add that for every grumble there is a countervailing triumph.

The Vienna State Opera with its orchestra, which plays as the Vienna Philharmonic when it is not in the orchestra pit of the theatre, are not only the flagship of Austrian culture. They also enjoy the highest international standing. The opera is a magnet to both Viennese and foreigners: when world stars are on the bill, queues for the few available tickets form up to two days in advance and the people in the queue, many of whom are only there to re-sell, occasionally come to blows.

Not the least of the arguments in Vienna is about the cost of the overstaffed state-run group of theatres consisting of the State Opera, the Volksoper, home of lighter works, and of the Burgtheater with its second stage, Akademie Theater and yet another, small stage.

The collective annual deficit, which is made good from the government budget, comes to Sch 1.6bn (about £80m)—a lot of money for a small state, as Dr Robert Jungbluth, secretary-general of the group, readily admits. But, he says, the figure is a bit misleading. Roughly one third of the subsidy flows back to the state in the form of taxes. Another third goes in pensions to retired actors and other employees of the group.

Besides, Dr Jungbluth argues, the theatres and operas bring business to Vienna which he estimates at twice the federal subsidy. Beyond that, in particular the opera does a lot for Austria's image abroad which has taken a few knocks lately.

The state opera is among the world's most expensive, with tickets on star nights ranging up to Sch 1,800 (about £90), which still leaves it below La Scala in Milan. Dr Helmut Drese, the new director, lays some of the blame for high costs on long standing, inflexible agreements with the unions which, he feels, should be renegotiated. But there also is the fact that quality does not come cheap. The orchestra with 150 members is the largest opera orchestra in the world. The repertory is huge: there is a stock of some 45 operas which can be revived at short notice.

What the opera no longer has is a star quality resident ensemble such as that of the 1950s with singers such as Elisabeth Schwarzkopf and Anton Dermota. Dr Drese says that modern air travel put paid to that kind of thing, enabling stars to flit from continent to continent. But he is proud of a Mozart ensemble of young singers who will be able to show their mettle as he builds up a Mozart repertory of nine operas in time for the bicentary of the composer's death in 1991.

Dr Drese reckons that it should be possible to buy tickets for his opera at box office or agents at one or two days' notice for about one of every two performances. If not, try the hotel porter, provided you can face a hefty mark up.

Besides the state group, Vienna has a large number of independent stages, including some fringe theatre. Of necessity, their appeal is mainly to the German-speaker. That does not apply to a galaxy of museums and exhibitions. Before going, make sure the place is open: hours are wayward.

After prolonged rebuilding, the unique Schatzkammer has been re-opened, displaying the crown jewels, treasures and trinkets of a millenium of Holy Roman and Hapsburg emperors.

The Museum of Fine Art, besides a leaky roof, has collections of Rubens and Breughel which rank among the finest in the world. The Kuenstlerhaus stages special exhibitions such as the blockbuster, two years ago, about Viennese culture and art from the rise of the bourgeoisie until the 1930s: its centre piece was Jugenstil, the Viennese variant of art nouveau, which has been enjoying an international vogue.

Two painters heavily represented in that exhibition, Klimt and Schiele, can be seen in the Austrian collection at the Upper Belvedere. On a more intimate level, the city maintains a charming watch and clock museum, tucked away in a passage of old Vienna.

These and many others apart, the central area of Vienna, roughly within the broad sweep of Ringstrasse, is a museum by itself worth exploring on foot. A leisurely walk will recall much of the history of what once was one of the great imperial cities of Europe: baroque palaces, many of them freshly painted and gilded, the massive pomp of the later 19th century, and the budding modernity of architects like Otto Wagner and the more austere Adolf Loos.

In a fit of polemics, Loos once said that the decorative is criminal. Fear not, even he relaxed, and Vienna with its traditional *Melange* of grandeur and kitsch is rich in decoration.

W. L. Luetkens

A Henry Moore figure, the sculptor's gift to the City of Vienna, rests in the waters of a fountain outside Karlskirche. The church, its outside recently cleaned, is one of the finest examples of Viennese baroque, architectural style of the heyday of the Habsburg empire.

Vienna Philharmonic

A band on its honour

THE BAND'S too loud—(*zu laut das Orchester*)—an apprehensive Richard Strauss once wrote into an operatic score. Needless to say the music was not to be premiered by the Vienna Philharmonic whose silky delicacy has pleased music lovers for decades.

The characteristic "Vienna sound" is the product of much work, discipline and love of music, which have made the Vienna Philharmonic arguably the world's top operatic orchestra with 150 musicians, not including substitutes, compared with the 120-150 players that other opera houses can marshal.

In reality the number of players is even higher according to Robert Jungbluth, secretary-general of the Austrian state theatres including the opera. He says that the orchestra can call upon about 250 players if you take into account retired players and others trained with the Vienna Phil who are available as substitutes.

This enables the orchestra to play a subscription concert with a Brahms symphony at the Musikverein and Verdi's Tosca at the opera house on the same evening. Similarly, when it is touring as the Vienna Philharmonic enough musicians are left in Vienna to cope, if not with Wagner's Ring, at least with more modest operatic scores.

Several factors explain the orchestra's enduring run in the top league. It has not had a formal director or permanent conductor since its break with Gustav Mahler in 1901. Since then it has been self-governing.

Its musicians choose conductors, decide on programmes and on who is to play and where. Mr Werner Resel, president of an elected committee of 12 musicians to maintain their high standards—"there is nobody else to blame if things go wrong."

Training and recruitment are tightly controlled by the more senior players. Recruits are examined by a jury of 28, including members of the committee and leading players of the appropriate instruments. Even before, they have usually been screened by their teachers who are as likely as not to be senior players with the orchestra or players retired from it.

It is a kind of old boy network which in practice leaves little room *for* women players or foreigners.

In addition all players are expected to use instruments regarded as appropriate to the "natural sound" prized by the orchestra. There is a specifically "Viennese" horn and a Viennese oboe. Percussion and some string instruments are slightly different from the standard types and require a different technique bringing out the orchestra's individuality. But in the end the secret is discipline and coherence born of playing together on about 300 nights every year.

Patrick Blum

Tourist industry

Boost from Bond

THE PRESENT vogue for the "here today and gone the day after tomorrow" style of city tourism has proved a boon to the Viennese tourist industry and its hangers on.

Overnight stays in the city have increased from 4.7 million in 1981, 4.1 million of them accounted for by foreigners, to a record of 5.5m of which 5m were foreigners, in 1985. Last year saw a dropping off, primarily because Americans were deterred by the news of terrorist activity in the Old World, partly by the decline of the dollar against a strong Austrian schilling. This year things appear to be returning to normal, according to Dr Wolfgang Kraus, director of the Vienna tourist bureau.

It is the better class hotels, especially in the five and four star categories that have profited most from the boom. The simpler hotels and pensions have lagged behind and some of them are going to the wall for lack of profits to finance investment.

Figures are not available to gauge profitability, but there is reason to suppose that the three star class and above (which means hotels with most or all modern amenities up to the luxury houses) have not been doing too badly. Otherwise it would be hard to explain the steady increase of the number of hotels available in the five and four star class.

The main driving force has come from international hotel chains with their assured access to worldwide booking systems and tour operators.

Inevitably, competition is already getting stiffer. Room prices have remained more or less stable during the past 12 months because of that pressure, though costs have also remained steady at a time of almost negligible inflation.

Prices listed in the city's current guide range from Sch 850 (about £43) to Sch 2,300 per person and night in the double rooms of the five-star hotels, to Sch 315 to Sch 760 in the three-star class. (These amounts include VAT and service—though additional tips are customary—and, in most cases, continental breakfast.)

Occupancy rates in the better class hotels can range up to 90 per cent, but overall for all hotels and over the year the rate is around 46 per cent, dropping to 30 per cent in November to March. Hence there is a particular need to attract extra tourists during the quiet season, and especially between October and the end of the year.

That is where the Japanese, who are a growing element among the crocodiles of foreigners winding their way through the centre of the city at the heels of a guide, are such a help. They appear to be less worried about wind and weather, mainly because their interest is chiefly in indoor activities such as music and the museums.

Measures to help fill the winter gap include a new annual Mozart musical festival to be held in Advent and an earlier beginning to the ball season which traditionally sets in at the New Year. This year it will fizz off on November 11 with the "champagne ball," which has the support of the French champagne houses.

Those undaunted by the hotel charges may realise from the prices announced for this event that Vienna is not the cheapest of cities. Tickets of admission will cost Sch 1,000 per head and a table for four will come to another Sch 2,400.

The price for a bottle of the sponsors' champagne is not yet known, but won't be in the special offer range. At this year's Opera Ball, the highlight of the Vienna season, a glass of native sparkling wine with orange juice came to Sch 170 (almost £9).

But you don't have to go to the white tie and tails balls: during the quiet season you are much more likely to get into the opera at a reasonable price. Hotels may also offer rebates.

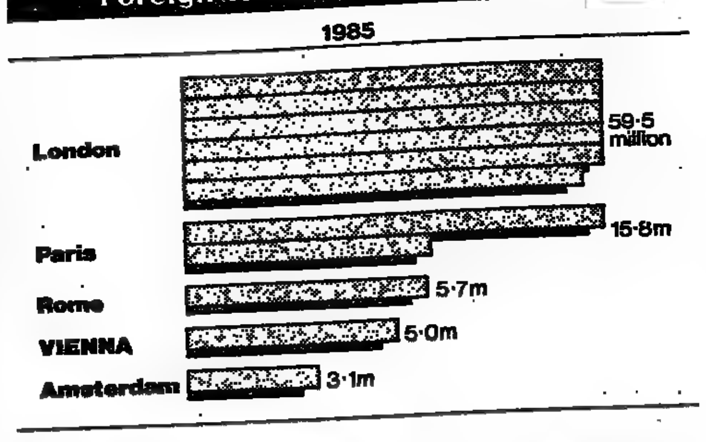
At the height of the summer season one might think that the capital lives on the business brought by the tourists: the inner city turns into a babel of many tongues. Estimates of the contribution that the tourists make to the gross urban product of Vienna range up to 5 to 6 per cent, though that may be on the high side. A much more modest impression is conveyed by the statistic that on an average day there are some 20,000 tourists present amid a native population of 1.6m.

The fact remains that tourism is a profit centre for Vienna and its shops and services. Last summer according to estimates made by the tourist office, each guest in the two- and one-star lodgings spent an average of Sch 1,445 on every day spent in Vienna. For guests in the four- and five-star class that rose to Sch 2,421. The average stay is 3.6 days.

Small wonder that Dr Helmut Zilk, the mayor, cut a lot of red tape—no mean task in Austria—to help actors, camera crews and all the rest filming a James Bond picture on location in Vienna last autumn. The film is due out this summer and the publicity for the city and some of its sights should reward the mayor for his effort.

W. L. Luetkens

Foreign tourists' overnight stays

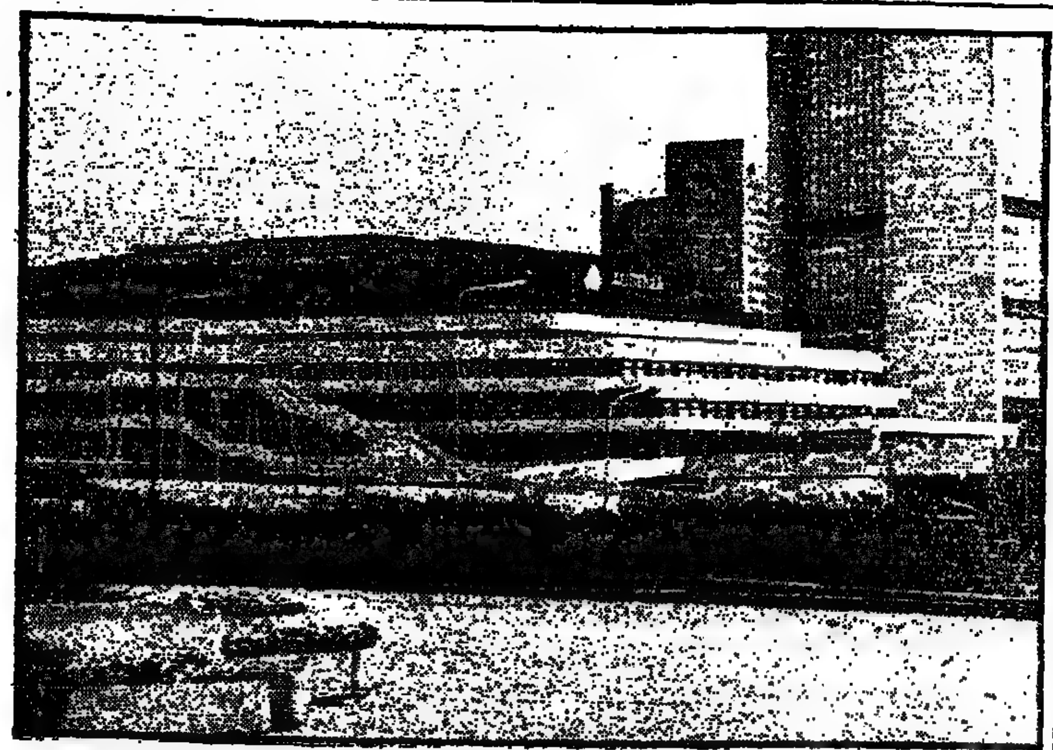


Source: Vienna Tourist Bureau

Tourist industry

Available tourist beds (1,000s): 31.5.86—32.9; 31.5.87—34.5; from 1989—38.2 (estimated)
Tourist overnight stays (hotels and pensions): 1985—5.1m; 1986—4.8m; thereof in 1986: West Germans—1.0m; Italians—0.6m; Austrians—0.5m; Americans—0.4m

Source Vienna Tourist Bureau



The new Austria conference centre : no one can make money

Conference centres

An unloved baby

A GALAXY of singers—Placido Domingo, Jose Carreras and Agnes Baltsa—all turned out to grace the opening of the new and bitterly controversial Austria Centre Vienna on May 17. The huge and unimaginatively designed conference building, which also has facilities for balls, banquets, concerts and fashion shows, will have to work hard to attract custom.

Like so many things in Austria, the centre continues to be a political bone of contention. It is widely known as the Kreisky Mausoleum because during the 1970s the then socialist Chancellor, Dr Bruno Kreisky, hit on the idea of building a prestige giant on the banks of the Danube, just beside the huge United Nations building.

With financial help from Arab sources on one side and against the wishes of over 1m Austrians who signed a petition against the idea the centre went ahead. That petition was sponsored by the People's Party on the grounds that the centre was unwanted and too dear, and the party has kept up its complaints even though it has since joined the Socialists in government.

The building has had its teething troubles. It has to compete with another established centre in the old Imperial palace, the Hofburg. For all its elegance and convenient situation, that centre is not big enough. At the moment both centres are working flat out to attract clients. "We are discounting our prices here in the Austria Centre," an official conceded.

The hope is that the Hofburg, leased from the Government by a group of hoteliers, and the new centre, owned partly by the state, the municipality of Vienna and an ad hoc company will eventually co-operate. "Running each other into the ground is no way to improve our image abroad," one official at the Austria Centre commented.

What does the new centre offer? Not much elegance: the interior is reminiscent of an airport terminal. It lacks atmosphere, has inexplicably narrow stairways and escalators, a Press centre which is too small and, judging from the opening on May 17, cannot cope easily with hundreds of people milling about on the first floor.

The plus side is that it can house vast numbers of people. It has 14 halls and can cater for meetings of from 50 to 4,200 people, with room for another 500 in a gallery overlooking the main hall. It has interpreting facilities for up to nine languages, radio and television studios, a bank, a first aid centre and a police station.

The staff of 120 are efficient and intensely loyal to "our baby," as they call it. There is plenty of parking space and the underground reaches the Austria Centre in nine minutes from the very centre of Vienna at Stephansplatz.

The American embassy under construction in Moscow might profit from the anti-bugging precautions. The absence of cables and wiring in the conference rooms makes it hard to plug in from outside.

Such services are expensive. The centre cost more than Sch 3.3bn (about £165m) to build, nearly half of which is owed to lenders in the Middle East. The centre will have to be subsidised by the state to the tune of Sch 60m a year. Annual running costs will amount to that even without another Sch 50m in wages.

"We do not expect to make money. No centre can," an official explained. At the moment they intend to charge the minimum of Sch 148,000 a day for the rent of the large plenary hall. But with the price war between the two Viennese centres rebates are probable.

The hope is that the centre will grow up and develop its own atmosphere. Officials and staff hope that the forthcoming United Nations conference on narcotics which opens in June will make the centre's reputation. But with an Austrian Press and public opinion which does not change overnight firmly opposed to the place, it will be an uphill struggle.

Judy Dempsey

Business survival kit

Early starts and odd shopping hours

VIENNA IS at once the most easterly end of Western Europe and the most westerly part of Eastern Europe. Slav languages and Hungarian are often heard in the streets besides the predominant German. But fear not: English is quite widely understood if your German is not up to scratch.

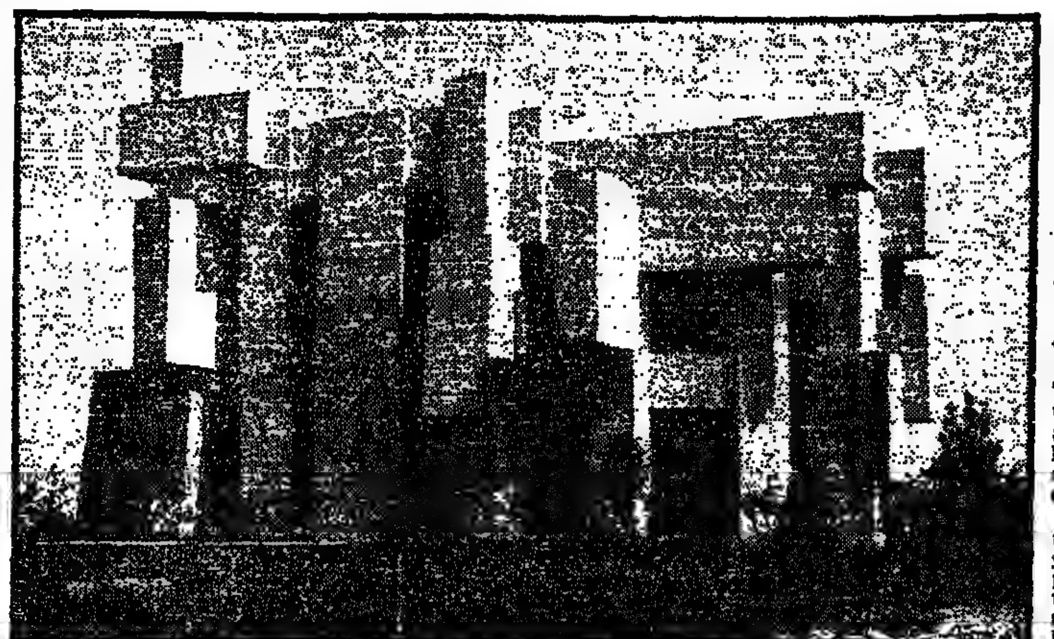
But the unsuspecting visitor coming on business should be prepared for some peculiarities. Most offices, banks and ministries open at 8 am sharp in the centre of Vienna and even earlier in the surrounding districts.

Construction workers are on the building sites by 6.30 am and the local bakeries have freshly made bread on sale by then. Many Viennese are on the move by that hour and parking spaces around the Boerse (The Bourse) are full by 7 am. The morning rush hour takes place between 7.30 and 8.30 am.

Hectic though the roads and the driving can be, rushing around is not a typical Viennese trait. It is wise to get your pressing telephone calls out of the way in the morning. Rule out the late afternoons, especially on Thursdays and Fridays as the weekend approaches. Offices generally close at 4 pm, banks at 3.30, except on Thursday when they stay open until 5.30. By early afternoon on Friday it may be hard to reach contacts.

The rules are not uniform. Shops stay open during lunch hours in the Erste Bezirk, the first district which is the very core of Vienna. Elsewhere shops may close for an hour or more.

So there may be time to wander around Vienna. Old central European habits die hard. Everybody is tipped, from the hairdresser and taxi driver to the waiter, delivery man or porter. In the case of taxis, though the fare does include a service charge, it is usual to round up to the nearest multiple of Sch 10 (about 50 pence).



Vienna avant grade : suburban church at Mauer designed by the sculptor Fritz Wotruba, architect Fritz Gerhard Mayr

A word of advice: unless you are going to a well-known destination add the number of the district to the street address you are bound for. It helps the driver find his way.

If you are tempted to try public transport you will find it efficient and clean. One ticket, to be bought in advance at tobacconists, will do for a whole journey within Vienna, allowing you to change from tram to underground and bus.

Round up the bill in coffee houses too. At the hairdressers 10 per cent is usual, as at the more up market restaurants.

Food is not exceptional (barring the famous pastries) and may take a bit of getting used to. Viennese cuisine is a mixture of Bohemian, Moravian and Hungarian dishes with paprika, pork and veal common. It can be on the heavy side. But places such as Os Ald und Kalb, tucked away in Backerstrasse not far from Stephansplatz, produces superb Austrian dishes from the province of Styria.

For those who want to try Czech food and the genuine Budweiser beer amid homely local colour, Smutny's on Elisabethstrasse, a few minutes' walk from the state opera, is worth a try. In recent years a number of excellent Italian restaurants have opened as well as a few Chinese.

Be brave and try Austrian wines, especially the slightly more expensive kind. In spite of the great Austrian wine scandal of two years ago, nobody is actually known to have suffered any damage to health from the adulterated stuff. A German who tried to commit suicide by drinking it is said to have survived hale and hearty if hung over.

There is always the Heurigen to go to in the suburban hills north of the city at Grinzing. These are wine gardens where the patron sells wine from his own vineyards. The wine can be very rough. At times it is best to copy the Austrian custom of taking it g'spritzt or splashed, meaning half wine and half mineral water.

The Heurigen are great institutions, especially in summer, but it is best to keep away from the centre of Grinzing which is the typical tourist trap. It lacks the genuine Viennese atmosphere and it is hard to park without ending up with a Sch 100 (about £5) parking ticket.

Try farther north or else at Doebling, the Haselbrunner Hengl in Iglaseestrasse 10, or at Sievering zur Agnes in Sieveringerstrasse, where it is quieter and more Viennese.

That is where taxis are useful. They are plentiful. Do not get upset if your driver complains about other road users: driving habits are, to put it mildly, aggressive. So watch your step on pedestrian crossings.

Do not get upset by the eccentric Saturday shopping hours. If you are not deterred by retail prices generally higher than those in London and want to do some last-minute shopping or browsing, get up in time to savour a leisurely breakfast, a marvellous experience in Vienna with its variety of coffees, a legacy of the Turkish wars, the different kinds of bread and rolls as well as the scores of coffee houses with a choice not only of Austrian but also of international and Eastern European newspapers.

It won't leave much time for shopping since, on Saturday, everything closes at midday or at any rate at 12.30 pm. After that the Viennese escape from the city. Vienna is yours (and the tourists'). Ask the hotel porter to book you seats for a concert, the opera, a restaurant or the theatre. (Yes, there is an English theatre and also a French one.) And ask him also to give you the useful monthly guide to What's on in Vienna.

Judy Dempsey

Attractions for the foreigner

Coffee house charms

FROM LATE spring to early autumn the narrow streets and gently illuminated courtyards of Vienna's inner city offer a soothing environment for visitors and residents after a hard day spent sightseeing or at work.

It may not be as jumping with dynamism or nervous energy as London or Paris, but there is a distinctly enjoyable, casual and lazy feeling about taking a beer or glass of wine sprinkled with fizzy mineral water on a fine evening in a pavement cafe or restaurant in central Vienna.

But regardless of the heat, at 10.00 pm sharp, just when things look at their most convivial, your waiter will politely but firmly invite you to move to a table indoors. Protests will be in vain—in the city it is illegal to serve customers outside after that fatal hour. People are moved inside, chairs are stacked up or tipped against the tables and everyone takes to the streets or goes inside.

The bars, clubs and restaurants get crammed and become sticky, smoky and noisy because they are also required to keep their doors closed so as not to offend local residents who will, at a pinch, call the police if they feel they are being disturbed.

This 10 o'clock curfew is frustrating and there is growing pressure to liberalise the law—many night spots stand to gain a huge amount of custom—but like everything else in Vienna that goes against tradition. Change will take some time.

Outside the city centre things are more relaxed and people can be seen sitting out well into the night although they will not be served and will have to collect their own drinks inside. There are the traditional Viennese Heuriger, the wine taverns on the edge of the city, and the large and rumbustious beer gardens in the Prater park.

The Prater fun fair, tucked at the northern end of the park, must be one of the last original amusement fairs in Europe with its mixture of old-fashioned kitsch and high-tech displays and unlike most fun fairs in Europe is entirely safe.

It is also the home of the wheel made famous by Orson Welles in the film The Third Man. The wheel designed by Walter Basset, a British engineer, celebrates its 90th birthday this year.

It offers the best views of Vienna and along with the fair it is worth a visit to be followed—if you do not mind the rougher style of service—by a traditional Stelse (grilled leg of pork) accompanied by excellent Czechoslovak beer at the Schweizerhaus beer garden.

The large Prater park is one of many green areas in and around Vienna. A short trip through the Vienna woods on the city's outskirts will help to restore sinking spirits often caused by wildly fluctuating atmospheric pressure and strong winds known to cause headaches, bad tempers, and depression.

This may account for the Viennese passion for clean air, open spaces and outdoor activities. The traditional and classless Frei Koerper Kultur of bathing, nudism and the sauna has retained its popularity and been given a boost by the growth of the "green" movement.

There are probably more swimming pools, indoors and outdoors, in Vienna with its 1.6m inhabitants than there are in London and Paris put together. Public and private swimming baths are well maintained—some have recently been magnificently restored to their original art nouveau state—clean and generally cheap, although private ones are more expensive.

A new vast and, probably unique for a European capital, car-free open air recreational development on islands on the Danube for swimming, sailing and cycling has been hugely popular.

During the long and cold winters the theatres, coffee houses and numerous wine bars come into their own. In addition to the established theatres, the concert houses and the opera, Vienna offers an increasingly wide choice of alternative entertainment including plays in English, French or Italian and modern musicals.

An English theatre established in 1963 with its own house since 1974 has been highly successful achieving regular full houses. There are daily performances of plays by well-known British and American authors using professional actors brought over from London and New York.

French and Italian plays are also put on at other theatres on a less regular basis. Other theatres offer cabaret, operetta and musicals such as Cats. The city of Vienna authorities are encouraging new artists in an effort to enlarge the range of entertainment for the visitor and the local population which includes many foreigners working for international companies or for the numerous UN agencies based in Vienna.

In the past few years there has been something of a small revolution in Viennese night life. If you did not go to the theatre or the opera there was little other choice, but there is much more on offer now particularly for the younger set.

An especially popular area oddly nicknamed the Bermuda Triangle comprises a couple of steep cobbled streets in which practically every door opens on to a bar, jazz club or restaurant. Cinemas have mushroomed and more films can now be seen in English or in original versions. Foreign newspapers, magazines and books are widely available.

Last but not least there are the coffee houses, each with its own character and faithful customers. It is difficult to overstate the quiet charms and advantages of the Viennese coffee house. Some years ago many closed down and it was feared that they might die out.

It is difficult to see how they can be profitable since one can happily spend hous over a single cup of coffee reading the world's newspapers without being asked to move. They seem to be prospering all the same and they are still very much at the centre of social life in Vienna.

Many coffee houses in the inner city have been elaborately—some say unfortunately—restored with dazzling displays of renovated or mock Jugendstil. In the more fashionable coffee houses and in some restaurants waiters can hurtle about rudely ignoring you, or ask you to pay even before you have had time to finish your cup.

Off the beaten tourist track the pace is slower and more homely. If you are a regular you will be shown wordlessly to "your" table beneath a subdued lamp and a rococo mirror and brought your regular order—too bad if you fancy a change—without fuss.

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Patrick Blum

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SECTION IV

FINANCIAL TIMES SURVEY

A squeeze on defence budgets, delays in some civil projects and difficulties with Western space programmes, have created some short-term hold-ups. The long-term outlook for manufacturers and airlines remains buoyant with projected world sales of close to $1,400bn to the end of the century. Michael Donne reports.

Collaboration to spread costs

The European Airbus Industrie A-320 Airbus, which recently made its maiden flight, is one of the great success stories of airliner manufacture: close to 450 aircraft were ordered, or options taken, in advance of the first flight. The A-320 enters service next year.

CONTENTS

THE LONG-TERM outlook for the world's aerospace industries remains buoyant, although the immediate future is clouded by some uncertainties. These include squeezes on defence budgets restricting some military procurement, difficulties with Western space programmes, and delays in launching major new civil projects, such as the new generation of Airbuses—although the latter may be close to resolution.

Nevertheless, the world's aerospace industries go to this year's Paris International Air Show aware that between now and the end of this century the total world market for their output remains close to $1.400bn, including sales to the People's Republic of China but excluding sales to the Soviet Union and other Warsaw Pact nations.

By far the largest part of this vast market is expected to be devoted to military procurement, with about $500bn for aircraft and about $300bn for guided weapons.

For the rest, close to $300bn is likely to be spent on commercial aircraft of all kinds, together with some $90bn for airport construction and equipment, while more than $200bn is likely to be spent on spacecraft, primarily communications satellites.

This will include spending too on manned US Shuttle flights, due to resume next year, and some other major manned space ventures which are expected to emerge before the end of the century such as the European Hermes venture and a start on the US-led manned space station.

Exploitation of this vast aerospace market is already leading to the emergence of several major trends. Although international collaboration is not new to aerospace—it has been around in one form or another for many years—it is now increasing as the costs of major new ventures continue to rise steeply, making them prohibitive for individual companies and even individual nations.

Such collaboration cannot only lead to sharing of costs, but also a widening of the ultimate market, while for the less experienced nations involved it can lead to the swifter and cheaper acquisition of advanced technology than might otherwise have been the case.

This collaboration is spreading not only in both airframes, engines and equipment manufacture, but also across the spectrum of civil and military aircraft, guided weapons and spacecraft.

At the same time, it is no longer confined to the bigger aerospace manufacturers and nations, but is taking hold among the smaller nations which have begun to recognise the benefits of aerospace as a spearhead technology with access to vast markets. The result is that many countries are now either actively expanding such small aerospace industries they may already possess, or initiating such industries, where possible by collaborating with larger nations.

Brazil, for example, which has for years had a successful commuter and regional airliner manufacturing facility, has expanded into military aviation with its Tucano basic trainer, which has been adopted by the UK for the RAF, and is now moving into bigger tactical combat aircraft with the AMX being developed in collaboration with Italy.

Indonesia is building a flourishing industry based on collaboration with Spain in the development of light transport and utility aircraft. Israel has moved on from its Kfir tactical combat aircraft to the more ambitious Lavi, although that programme has run into financial problems, and its future is in some doubt.

Singapore, although lacking the necessary finance and heavy industrial infrastructure to develop locally-designed aircraft, is playing an increasingly significant role in the production and assembly of avionics and other equipment and components for an increasing number of larger Western aerospace manufacturers, including some in the UK and the US.

China, for long dependent on the Soviet Union for many of its designs and much of its aerospace engineering expertise, is turning increasingly to the West, not only for assistance in the education and training of its aerospace talent but also for work, through the production of components for Western-designed aircraft (such as the British Aerospace BAe 146 regional airliner); and even the assembly under licence of complete Western-designed airliners (US McDonnell Douglas MD-80s), and the manufacture of engines (Rolls-Royce Speys).

Japan, too, although for long the possessor of a substantial industry largely based on the production under licence of US-designed aircraft, is now playing an increasingly significant role in international collaboration on major new commercial airliners, such as the projected Boeing 7J7 prop-fan 150-seater, and has plans to develop its own advanced tactical fighter aircraft, the FSX, but probably will need technological support from the US industry to achieve that goal.

All of these countries, and others, will be seeking a share of that big world market of $1,400bn through to the end of the century, and the even bigger markets that most believe lie ahead in the next century. For few in the industry doubt that the expansion now taking place will continue for as far into the future as can be foreseen.

Analysis of the market for the immediate future suggests that the emphasis will remain for some time on military procurement, although cuts in the US defence spending, and a general tightening of defence budgets elsewhere, including the UK, could not only trim some existing military aircraft and missile programmes but also delay the introduction of some new ones.

Nevertheless, work has already begun on several major new ventures, including the European collaborative fighter aircraft (EFA) involving the UK, West German, Italy and Spain, now awaiting full go-ahead later this year, in competition with the French Dassault Rafale (which is also seeking to establish a European consortium but so far without much success).

Preliminary work is also getting under way on new US ventures such as the Advanced Tactical Fighter (ATF) for the Air Force and the Advanced Tactical Aircraft (ATA) for the Navy.

In the commercial airliner business, manufacturers' forecasts of the world demand through to the end of the century vary between $222m (Boeing) to $280bn (McDonnell Douglas) and more than $400bn (Airbus). These forecasts exclude current outstanding orders of over $30bn.

Even if the most conservative Boeing estimate is adopted, it still only covers the major aircraft of about 100 seats upwards.

To these must be added the vast market for aircraft of below 100 seats, including all the so-called commuter and regional jet and turbo-propeller airliners now either on offer or planned. Together with business aircraft sales, this could collectively bring the overall market for commercial aircraft up to a level of about $300bn as a minimum.

If to this is added anticipated spending on new airports and their equipment, together with the refurbishing and modernisation of existing airports, to meet the anticipated doubling of world air traffic by the end of the century, total outlays on commercial aviation and its infrastructure could amount to at least $400bn, and may well be more.

The commercial aviation scene will be dominated over the next few years by several major developments. One will be the trend among manufacturers to offer new generations of airliners, or improved derivatives of existing aircraft, all embodying extensive advanced technology such as new materials, improved aerodynamic shapes, and new electronic systems, all aimed at reducing operating costs and improving overall range and payload performances.

Such aircraft include the new Airbus A-320 150-seater, now flying and due to enter service next year, the projected McDonnell Douglas MD-11 tri-jet replacement for the existing long-range DC-10, and the long-range Boeing 747-400 Jumbo jet, all powered by conventional turbo-fan (jet) engines.

Another innovation will be the exploitation of new concepts of propulsion, in particular the "ultra high by-pass" or UHB engines, that will offer substantially improved propulsive efficiency for much reduced fuel consumption (as much as 40 per cent less than current turbo-fan jet engines).

There are various versions of these UHB engines, including the current "prop-fan" engine now under development by General Electric, which has big propeller blades shaped rather like a ship's screw, a radical departure from the conventional propellers as seen today.

When this particular form of

Continued on page 16

The manufacturers are offering many new types and derivatives

Huge market for airliners

THIS YEAR is likely to be one of the most dramatic for a long time for the major world airliner builders, with many new types of aircraft, or derivatives of existing types, on offer to the world's airlines. Collectively, these will shape the future pattern of world air transport well into the next century.

At the most recent count, and including new versions of existing airliners, there were no fewer than 14 different new or derivative airliner models planned or already being offered by the major manufacturers, principally Airbus of Western Europe, and Boeing and McDonnell Douglas of the US, but also including British Aerospace and Fokker, who together constitute the five major world jet airliner manufacturers.

All these models cover between them the entire range and payload spectrum, in addition to the existing production lines of short, medium and long-range jets.

All of these ventures, either those actually under development or those currently only planned, are nevertheless the subject of procurement discussions between the airlines and the manufacturers, and indeed in some cases firm orders or letters of intent are already being written for some of these aircraft.

It has been estimated by Boeing, the world's biggest builder of jets, that between now and the late 1990s, the world's airlines will spend up to about $222bn on re-equipment, of which some $150bn will be to meet the growth of world air traffic, and the remainder, about $72bn, for the replacement of time-expired aircraft.

These sums will be in addition to the $320bn already spent by the world's airlines between 1950 and 1986 on new jet fleets. The additional spending of $222bn will cover upwards of 5,000 jet airliners of various kinds, so that by the end of the century, the total world jet fleet is expected to total around 9,500 aircraft.

McDonnell Douglas puts the figure rather higher, at about $280bn by the end of the century.

Airbus Industrie, the European consortium, puts the potential market higher still, at some $403bn up to the year 2005, covering some 7,270 new aircraft, of which it expects its market share will be about 30 per cent.

What these estimates, varied though they are, indicate clearly is the emergence of a massive market for what may be termed "front line" commercial airliners.

What they do not include, however, are the additional substantial sums that will have to be spent in what is called the "regional" or "commuter" area of aviation, for smaller, shorter-range types of aircraft variously seating from about 20 seats up to about 100, which could add as much as another $50bn or more to the overall bill, bringing it to close to $300bn.

The re-equipment tide is already flowing strongly across the entire range and payload spectrum, and many billions of dollars of the overall bill have already been committed in one form or another.

Even so, there is still a long way to go, and many further major orders are known to be in the pipeline for delivery over the next two to three years.

In the long-range jet airliner field, in addition to the existing steady sale of Boeing 747 Jumbo jets of the Series 200 and 300 models, some big orders have already been placed for the bigger, longer-range Series 400, carrying up to 412 passengers over distances of more than 8,000 statute miles. These make possible non-stop operations in both directions between such cities as London and Singapore, Hong Kong, Tokyo and Seoul carrying significant payloads.

Competing with the 747-400 will be the new McDonnell Douglas MD-11 tri-jet, the replacement for the long-running DC-10, capable of carrying more than 400 passengers over distances of 8,000 statute miles, although a proposed extended range model will carry up to 277 passengers over 8,870 statute miles, a 39 per cent increase over the range of the original DC-10 aircraft.

Also competing in the long-range stakes, but not due to enter service until 1992, will be the four-engined A-340 version of the Airbus, now awaiting formal launching, but nevertheless being offered to the airlines in two versions.

The A-340-200 will typically seat 262 passengers over distances of more than 9,000 statute miles, with the A-340-300 carrying a larger payload of 294 passengers over the shorter distance of 8,200 statute miles.

The margin of choice for the airlines in the long-range arena is thus narrow, even though the performance variations may be wide, and already a major battle is being waged for orders between the three major manufacturers involved.

In the medium-range field, for aircraft up to about 5,000 miles range, the struggle is already just as fierce between the same three major builders.

McDonnell Douglas is offering a medium-range version of the MD-11, carrying up to 327 passengers over 4,590 miles, to compete with another new version of the European Airbus, the A-330. The latter will be a twin-engined aircraft, carrying up to 328 passengers over some 5,800 miles, which will be developed in parallel with its companion Airbus, the A-340, using common fuselages, wings and systems so as to keep costs down.

To compete with these aircraft, Boeing plans to develop a new variant of its existing 767 twin-engined medium-range jet, called the Series 400, specifically adapted to the high-density mission and thus intended to ensure that Boeing does not lose orders in this field to either of its rivals.

In the short-to-medium range field, the European Airbus A-320 150-seater twin-engined airliner is way out ahead of the rest of the field, with deliveries due to begin early next year and orders for close to 450 aircraft already.

Boeing is trying to compete with its projected 7J7 advanced technology airliner, which it claims will be even better than the A-320 even though much later into service, in 1992.

The big difference with the 7J7 compared to other airliners is that it will be powered by the revolutionary new prop-fan type of engine, developed by General Electric of the US, with propellers shaped rather like a ship's screw and mounted at the rear of the fuselage.

This will probably be the world's first prop-fan airliner to enter service, unless it is pre-empted by a smaller 100-seater, the MD-91X which is being proposed by McDonnell Douglas.

Boeing is now canvassing the airlines on the 7J7, and if sufficient sales emerge; it will formally launch that aircraft some time in the late summer of this year, for delivery to airlines in 1992. At that time, Boeing claims, it will be the most advanced airliner technologically then flying, and Boeing believes it will kill off the Airbus A-320 in the market, although by then the A-320 will have had an excellent run.

It is in the sector of the market for aircraft of 100-110 seats that an even tougher battle is likely to be waged for the very short-haul aircraft.

So far, this market has been dominated by the Dutch Fokker 100 aircraft, competing with the British Aerospace 146 regional four-engined jet.

But now Boeing is to introduce a new smaller version of its famous 737, the 737-500, while McDonnell Douglas is planning its MD-88, which although initially intended as a turbo-fan (jet) airliner, may yet be re-engined with prop-fans, for service from about 1991, with its all-new prop-fan airliner, the 100-seater MD-91X, also planned, with perhaps also a larger 150-seater prop-fan, the MD-92X.

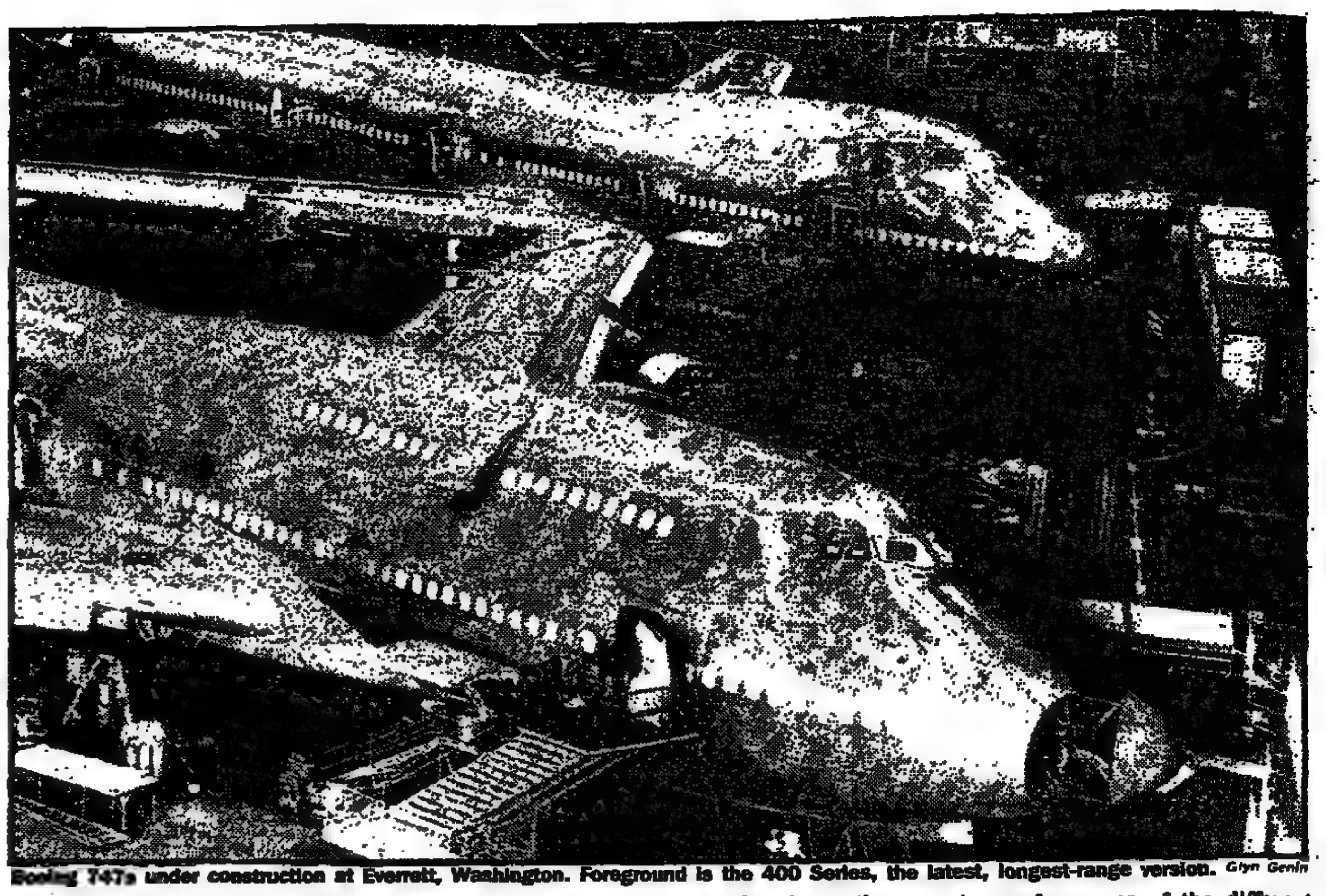
Outside these three main areas of activity, the short-haul regional airliner market is also extremely active, with a wide variety of aircraft from 19 seats upwards (such as the British Aerospace Jetstream 31) through to the 60-plus-seater BAe Advanced Turbo-prop, which is competing in the 60-70-seater market against such types as the new Fokker F-50 turbo-prop and the Franco-Italian Avions de Transport Regional ATR-72 venture.

From this, it can be seen that the overall market for airliners of all kinds is saturated with new types, and it is an almost impossible task for any airline to choose between them, so marginal are the payload-range performances of the different models in their respective classes.

Nevertheless, what is on offer today is what will be the backbone of the world's airline fleets at the end of the century, and it will probably be a long time before any other new subsonic airliner ventures are proposed.

But there is now the strong possibility that before the end of this century, work will have begun in earnest on a new generation of supersonic airliners, capable of flying faster and farther than the Concorde supersonic airliner.

Michael Donne


Boeing 747s under construction at Everett, Washington. Foreground is the 400 Series, the latest, longest-range version. Glyn Genin


The development fuselage for McDonnell Douglas' new MD-11 long-range tri-jet airliner takes shape at the company's Long Beach, California, factory.

Engines

Need for more collaboration


Advanced General Electric Unducted Fan (UDF) prop-fan engine fitted to a McDonnell Douglas MD-80 airliner which made its first flight with these engines last month.

THE WORLD aero-engine industry is currently characterised by a complex pattern of intense competition across the entire spectrum of airliner and military aircraft engine requirements, with companies at the same time being obliged, because of rising development costs, to become increasingly involved in international collaboration.

Both characteristics seem likely not only to remain dominant for many years to come, but also to increase. This is both to cope with costs as they continue to rise, and with the technological complexities of aero-engines which require an intensification of scientific and industrial effort to bring them to satisfactory completion as functioning and saleable power plants.

Although it has been estimated by Rolls-Royce that the world market for commercial aero-engines will amount to some £70bn up to the end of this century, with military engine business amounting over the same period to some £105bn, the competition to win shares of both areas by the major engine builders will be fierce.

Apart from the "big three" — Rolls-Royce, and its two US rivals, General Electric and Pratt & Whitney — the other major companies include the West German Motoren und Turbinen Union, Snecma and Turbomeca, both of France, Fiat Aviazione of Italy, and Flygmotor of Sweden, all in Western Europe, and Allison Division of General Motors (US), Avco, Pratt & Whitney of Canada and Garrett of the US. Thre are also three major aero-engine companies in Japan.

In addition to these, however, there are some specialist companies set up to undertake the research, design, development, production and marketing of individual engines for specific programmes.

These companies have been formed by the bigger companies, and include Turbo-Union (Rolls-Royce, MTU and Fiat Aviazione) building the RB-199 engine for the Tornado multi-role combat aircraft; the more recent Eurojet Turbo (Rolls-Royce, MTU, Fiat and Sener of Spain) to build the new EJ-200 engine for the European Fighter Aircraft (EFA); and Rolls-Royce Turbomeca, to build the new RTM-322 helicopter engine (as well as the existing Adour fighter and trainer engine).

In the civil field, the most significant and most successful collaborative engine company is CFM International, formed jointly by Snecma of France and General Electric of the US, to build the CFM range of commercial jet engines, which has now sold well over 1,000 engines, for such aircraft as the European Airbus A-320, the Boeing KC-135 tanker-transport, the DC-8 jet airliner, and more recently the Boeing 737-300 and 400 jet airliners.

CFM is also now the sole engine supplier for the new Airbus A-340 long-range airliner. General Electric is also working with Snecma on the new GE-36 prop-fan engine, discussed later.

Another major example of a joint civil engine organisation is the five-nation, seven company consortium called International Aero Engines, comprising Rolls-Royce, Pratt & Whitney, MTU, Fiat and the three Japanese aero-engine companies.

This was set up specifically to develop the V-2500 medium thrust engine for the European A-320 150-seater Airbus, which is now flying and is due to enter airline service next spring, with the CFM-56 engine. The V-2500 itself will not become available until the following year.

Efforts by the IAE group within recent months to expand its activities into the field of advanced civil engines with an "ultra-high by-pass" Superfan, originally proposed not only for the projected Airbus A-340 four-engined long-range airliner but also for the smaller projected 150-seater Boeing 7J7 twin-engined airliner, have been dropped, both for technical reasons and the difficulties of meeting the delivery time scales sought by both Boeing and Airbus.

This means that the Airbus A-340 will now be powered by the CFM-56 engine, and the Boeing 7J7 solely by the General Electric GE-36 prop-fan.

Another consortium, solely US-based, is PW-Allison Engines, formed between Pratt & Whitney and Allison Division of General Motors, to undertake development of the new "ultra-high by-pass" (UHB) engines, and especially a prop-fan called the 578DX for service from the early 1990s.

In every case, these collaborative ventures have been evolved to deal with specific high-cost advanced engine development programmes for which the rewards in turn have been, or promise to be, substantial.

Turbo-Union, for example, after many years is still involved in the biggest military engine programme yet seen on this side of the Atlantic in peacetime with the RB-199 for Tornado, although it seems likely that in terms of engine numbers and values involved the more recent Eurojet Turbo consortium may go further with the EJ-200 for the European Fighter Aircraft.

Dictating this collaborative approach has been the continuing rise in the development costs of new civil and military engine programmes, especially as, in turn, they have required substantial advances in technology to achieve the desired advances in performance.

It is estimated that it can now cost as much as £1bn or even more to develop from scratch a new civil engine, while for some military power plants the cost can be even more because of the particularly severe operating performances required, generating even tougher demands in terms of advanced technology.

No commercial engine company can afford that kind of cash, and even where governments pick up the bills on military budgets they are just as keen to get value for money and to keep costs down, so that in both areas the concept of international collaboration has many attractions.

Apart from saving cash, these include gaining the benefit of other countries' and companies' technological knowhow (especially attractive for the smaller companies who could never acquire it in any other way) and a widening of the eventual markets, leading to longer production runs and thus higher financial rewards.

At the same time, however, the reverse situation can occur. For example, Rolls-Royce, already developing its high-thrust RB-211-524D4D jet engine for the Boeing 747 and other big airliners, terminated by mutual agreement its engine development partnership pact with General Electric, which is building the cival CF6-80C2, because it found the pact unacceptably restrictive on its future ambitions.

One result of that release has already been that Rolls-Royce has begun studies aimed at further developing its 524 engine, currently rated at 58,000 lb thrust in the D4D version, to 65,000 lb thrust and possibly even further if airline market demand justifies it.

The new engine will be designated the RB-211-700, and will bear the development cost on its own budget. The company does not anticipate that the cost will be too high because the technology is already well understood and indeed much of it has already been done on other engines and it is only a matter of pulling those threads together.

Rolls-Royce could not have contemplated such a new development had the original pact with GE remained in being, and it is a measure of its confidence in the long-term strength of the commercial engine market, and of its own opportunities within it, that it is prepared to incur the risks.

But looking further ahead, the emergence of new types of propulsion systems, such as the ultra high by-pass engines or UHBs, could involve all the engine companies in heavy additional research and development spending for the mid to late 1990s and so seem likely to result in the emergence of further collaborative ventures.

The UHBs involve moving larger volumes of colder air round the hot parts of an engine, to mix with the hot gas exhaust and thus generate higher propulsive efficiencies for much lower fuel consumption than in current generation turbo-fan jet engines.

As such, they seem likely to be of considerable interest to the airlines, once the preliminary technical difficulties involved in their development are overcome, as they assuredly will be. The question, therefore, is not whether they will come to fruition, but when.

Already, several such engines have begun to emerge. They have different names, different technologies and even different methods of installation on airframes, but all are aimed at the same result—substantially cheaper flying.

The General Electric/Snecma GE-36 prop-fan is one such, while the Pratt and Whitney/Allison 578DX is yet another.

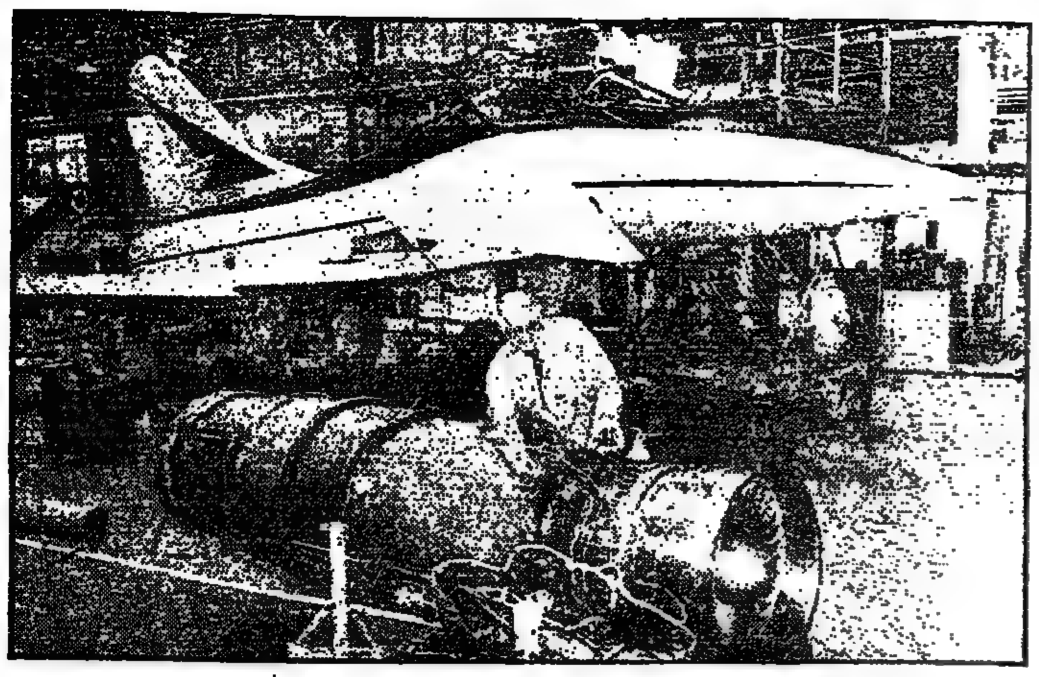
There will be others, for Rolls-Royce has ideas for big UHBs such as the Contra-fan, that could be suitable for use on Jumbo jets in the later 1990s, and which will be expensive to develop, almost certainly requiring international partnerships.

Thus, the pattern of collaborative development on these new engines is already beginning to emerge. It seems certain that it will go much further in the years immediately ahead, to meet the massive demand for such engines that will emerge.

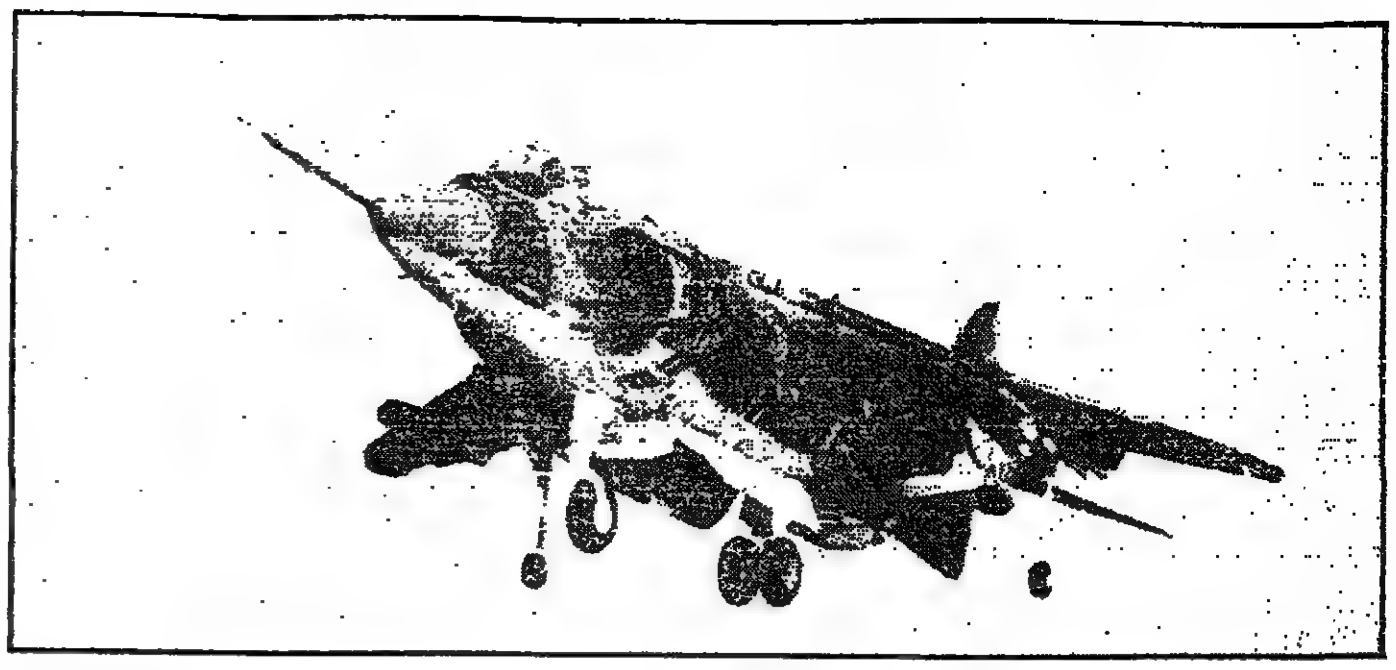
Pratt & Whitney believes that there is a potential market worldwide for as many as 10,000 of these UHB engines in all types of aircraft, large and small, by the year 2005.

In addition to the collaboration with Allison, Pratt & Whitney says that work on large UHB concepts is being pursued in collaboration with MTU and Fiat, as well as through its stake in International Aero Engines.

Michael Donne



Left: The British Aerospace Experimental Aircraft (EAP), with, foreground, the RB-199 engine that powers it. The EAP, which made its maiden flight last year, is the "demonstrator" for the advanced technologies that will be embodied in the forthcoming multi-national European Fighter Aircraft (EFA), on which full-scale development is expected to be announced later this summer.
Right: The Advanced AV-8B Harrier, now in quantity production for both the US Marine Corps and the RAF by McDonnell Douglas and British Aerospace in the largest-ever Anglo-US joint aircraft venture, involving some 400 aircraft.



Military aircraft

High spending continues to launch new programmes

ALTHOUGH pressures on defence budgets in many countries of the Western world are resulting in tougher and more limited procurement decisions for military aircraft, overall spending in this area of aerospace continues to be high, and some major new programmes are in preparation on both sides of the Atlantic.

An analysis of military aircraft trends prepared by British Aerospace indicates that over the last ten years, the total number of combat and jet trainer aircraft in service worldwide, excluding the Warsaw Pact countries and China, has been stable at about 29,000 aircraft, with new aircraft moving in to replace losses and the phasing out of ageing combat aircraft.

This level seems likely to remain steady for the foreseeable future.

A feature has been the move towards increased tactical combat aircraft in air forces outside the US. In the mid-1960s, the US market accounted for nearly half of the world total in this field, but it now represents just under one-third.

The largest growth area has been the Middle East, which has increased its military aircraft inventory as a region by about 50 per cent in the past ten years, although this may now stabilise in the light of limited defence spending following the fall in oil prices.

While the amount spent on military aircraft procurement continues to grow, in real terms, this growth rate is lower than the rate of increase in unit costs of individual aircraft.

This trend is already leading to lower numbers of aircraft acquired, and seems likely to continue, especially with the increasing life expectancies of individual military aircraft types, and the trend towards making individual new types of aircraft perform more roles, to reducing the numbers of types required.

The world market over the next 20 years is estimated to amount to about 23,000 combat and jet trainer aircraft, worth about $500bn in current values. Out of these, some 9,000 are already either on order or firmly committed or planned, especially in the US.

Additionally, some 250 support aircraft will be required on average each year, including specialist types such as Airborne Early Warning aircraft together with tanker and transports of all sizes.

The most significant new military aircraft programmes now under way on both sides of the Atlantic are primarily aimed at meeting tactical combat needs for the mid to late 1990s.

These programmes include the European Fighter Aircraft (EFA) and its immediate rival, the French Dassault Rafale, on this side of the Atlantic, and, in the US, the plans for an Advanced Tactical Fighter (ATF) for the US Air Force and an Advanced Tactical Aircraft (ATA) for the US Navy.

In the EFA programme, designed to replace ageing Jaguars, Phantoms and other aircraft in the air forces of the UK, West Germany, Italy and Spain, the go-ahead for full-scale development is expected some time later this summer, having been delayed late last summer.

The project definition of the aircraft and its power-plant has been substantially completed, and the industrial companies involved on the venture—Eurofighter Gmbh on the airframe and Eurojet Turbo on the EJ-200 powerplant for the aircraft—are ready to move into full-scale development as soon as government clearances are given.

Already, various consortia of equipment, avionics and other companies are being formed to bid for major items of equipment on the EFA, such as the advanced flying control system and the target acquisition radar, and some of these contracts may be awarded soon.

The EFA joint venture is being conducted by the UK and West Germany with 33 per cent, Italy with 21 per cent and Spain 13 per cent. Overall, the programme calls for the manufacture of eight prototypes and 809 aircraft and the value of the programme has been estimated at more than £12bn (at 1986 prices).

The UK's share seems likely to be in excess of £4bn, for which British Aerospace and Rolls Royce will get work shares broadly in line with the UK's overall share of the programme.

The first prototype is due to fly in July 1990, and full-scale production will begin by 1992, thus overlapping Tornado production which is now running down.

The Experimental Aircraft Programme (or EAP), comprises just one "advanced technology demonstrator" aircraft into which was built much of the airframe and avionics technology for the EFA. It has been on the ground undergoing updating for its forthcoming role as a pre-prototype demonstrator for the EFA programme.

It is now flying again, to help BAe in its own work before the first EFA prototypes become available later this decade, and will appear at the Paris Air Show, where it will once again by vying with the French Dassault Rafale.

In France, four major aerospace companies have collectively formed a new organisation called "ACE International Organisation", comprising the four companies involved on the French Avions de Combat Europeen, for which the Dassault Rafale is the demonstrator aircraft.

The companies involved, all French, are Avions Marcel Dassault Breguet Aviation, Snecma (the engine company), Thomson-CSF (electronics), and Electronique Serge Dassault, also involved in electronics.

ACE International is a "Groupement d'Interet Economique", and is open to foreign industrial companies interested in the programme and wishing to become members. In its first phase of activity, the new organisation will co-ordinate the work that French and foreign companies will undertake with Government authorities and military staffs, aimed at a common technical definition of the ACE fighter.

The first chairman of the new organisation is Gen Bernard Capillon, chairman of Snecma, which is building the engine for the new fighter.

In the US, both the ATF and ATA programmes are currently at about the same level of development, and there are suggestions in the US that their requirements should be brought closer together to try to save money on a defence budget that is being subjected to a considerable squeeze.

One of the highest priorities being put on the programmes by the US Defence Department is that they should both incorporate a considerable degree of so-called "stealth technology", the ability to avoid detection by enemy radars or defending aircraft until the last possible moment, which indicates the need for the two programmes to come closer together in the detailed design and development phases.

The US ATF is being developed to replace the McDonnell Douglas F-15 fighter, under competitive contracts involving teams comprising Lockheed, General Dynamics and Boeing Military Airplane on one side and Northrop and McDonnell Douglas on the other.

Each team is building a prototype according to its own design ideas on what the ATF should look like and perform, and the competitive fly off is set for 1989-90, after which the winning team will be given a full-scale development contract.

The US Navy ATA is the one being developed to replace the Grumman A-6. The Navy has also selected two teams—Grumman/Northrop and McDonnell Douglas/General Dynamics, to compete in a similar fashion for the ATA programme.

This competitive fly-off situation is a recent development in US aerospace defence procurement, designed to ensure that the service involved gets the most advanced aircraft possible, at the lowest possible cost, at a time of considerable defence budget constraints in the US.

Inevitably, it is not popular in the aerospace industry (although it is accepted, for the industry has no choice), for it means that the losing team will have spent much money on its own account without winning any resultant production orders.

It remains to be seen whether, in the event, the system does effectively produce the best possible product, although inevitably the losing side will always insist that its own product was better.

Nevertheless, the fact remains that the state-of-the-art in aerospace technology in the US, as in many other countries, is very much equally balanced between different manufacturers with no one really having a massive lead in technological development over another.

The Western European capability is technologically able to match, if not exceed, that of the US with the latter's advantage being only that of high volume production because of bigger home market demand.

But even this latter benefit is now being overtaken by collaborative ventures in Western Europe that are generating massive home markets for new military aircraft, such as Tornado and now the EFA.

This explains why the European companies involved on the EFA argue that, despite US claims to the contrary, their aircraft will be very much on a par with the US ATF and ATA. The companies not only dismiss US arguments that the Europeans should join with the US on the development of new tactical aircraft, so as to ensure NATO solidarity, but also point to the fact that the US has tried to win some share of the European ventures in order to get a closer insight into the advanced technology involved.

So far, however, there is no indication of any get-together on any of these advanced US or European tactical fighter concepts.

Among other new developments likely to have a significant impact on world fighter aircraft markets in the years ahead, Japan is discussing with the US the possibility of jointly developing a new-generation fighter aircraft, designated the FSX.

Japan has plans to build up to 100 of such aircraft, but lacks the detailed technical knowhow to work entirely alone, and is thus interested in securing collaboration from major US fighter aircraft producers.

Michael Donne

Slack demand from the oil and gas industries has cut civil output

More reliance on military orders

WHILE CIVIL helicopter markets worldwide remain depressed, especially as a result of the slackening demand from the oil and gas support industries, the major helicopter manufacturers have turned increasingly to military customers as a source of work.

Sikorsky, a member of the United Technologies Group and one of the world's biggest manufacturers of helicopters, has lowered its annual ten-year forecast of future world markets for rotary-winged craft by some 4,400 aircraft. It now projects sales of 13,450 aircraft, valued at about $45bn, over the period to 1996.

Primarily, this lowering of the estimate is a consequence of the more pessimistic outlook for the civil market; the forecast of deliveries to this sector has been lowered by 3,500 aircraft to a total of 4,560.

The civil market shows little sign of recovering from the last recession, with corporate helicopter demand remaining depressed, and recovery of the offshore market, as a consequence of this year's price falls, is likely to be deferred to beyond 1990.

US military demand has also been reduced over the ten-year forecast, to a new total of 2,790 aircraft, due to the stretching out of current programmes and delays in the introduction of new ventures such as the projected LHX (or Light Helicopter International).

The foreign military market outlook reflects a more conservative assessment in the timetable of overseas procurements, at about 6,100 aircraft.

The cash forecast of $45bn is slightly up, however, despite the projected reduction in unit deliveries. This is because the emphasis has shifted from smaller, lighter-weight and therefore cheaper aircraft to the procurement of larger, heavier and more expensive ones though in smaller numbers.

But though the world's manufacturers are looking more closely than ever at military procurement, even this sector is less lucrative than it used to be, with severe pressures on defence budgets reducing military orders on both sides of the Atlantic.

This is especially true in the UK, where the Ministry of Defence recently announced a long-awaited £300m package of orders designed to help secure the future of Westland Helicopters over the next two years,

The first pre-production Anglo-Italian (Westland-Agusta) EH-101 multi-role helicopter was rolled out at Westland's Yeovil, Somerset, factory in early April, and is due to fly later this summer. It is the first of nine pre-production aircraft, designed to prove the EH-101's performance characteristics.

before the big Anglo-Italian EH-101 multi-role helicopter comes fully into production to build up the company's workflow.

This package included a further order for up to 16 Lynx multi-role aircraft, for air-mobile operations in the armed forces, together with an order for 25 of the projected utility transport version of the EH-101 aircraft itself, preceding development of the naval variant of that aircraft, initially intended to kick off the overall programme.

At the same time, the UK announced its withdrawal from the proposed Nato helicopter for the 1990s, the NH-90, on the grounds that the EH-101 would be bigger, and earlier into service, making the NH-90 unnecessary from the UK's viewpoint.

Moreover, the UK view was that there is no money in the current military budget for either research or development of the NH-90.

Although these decisions were castigated by some MPs and others as being too little and too late to stave off redundancies at Westland—the company is now shedding some 2,000 of its labour force over the next two years—they will nevertheless help to ensure that Westland remains a helicopter manufacturer, albeit on an even smaller scale.

Westland's problems, in fact, are similar in some respects with what is happening elsewhere in the helicopter industry.

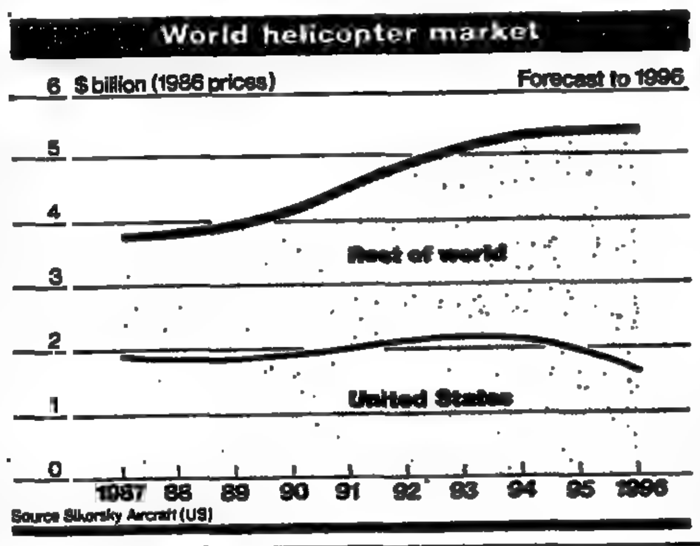
Current military helicopter programmes are running down, even in the US, and there is concern on both sides of the Atlantic that the helicopter makers will find the situation becoming even tougher before any of the major new programmes planned for the 1990s fully get under way to generate the work and cashflow that the manufacturers need.

So far as the EH-101 itself is concerned, it will be one of the most extensive helicopter programmes yet seen in Europe. It is the most immediate of several international collaborative helicopter programmes envisaged to meet various military requirements for the mid to late 1990s.

The EH-101 Westland-Agusta programme is being conducted through a joint company, EH Industries. The first prototype was rolled out at Westland's Yeovil factory in early April.

Designed as both a replacement for the Sea King anti-submarine warfare helicopter and for a wide range of utility and other duties, and with a commercial transport variant for up to 30 passengers and a range of 500 nautical miles also planned, it is expected eventually that upwards of 800 EH-101 aircraft will be built.

The initial military requirement envisaged 50 EH-101s for the Royal Navy and another 38 for the Italian Navy, has been overtaken by the UK decision to buy up to 25 of the utility transport version to help Westland overcome at least part of its "order gap" in the late 1980s.



But those naval requirements are still threre, and will be brought on stream as the utility aircraft order is completed.

First flight of the EH-101 is planned for this summer, and nine pre-production aircraft will be built for the long flight-test programme. Costs could be as high as £600m for the research and development programme alone and up to £850m for UK production.

Currently, the research and development costs are borne equally by Italy and the UK, with the UK's share of £300m being borne half by the Ministry of Defence, with Westland itself investing £75m of its own cash and the Department of Trade and Industry contributing the rest in the form of launching aid for the commercial version.

Westland's own forecasts for the future EH-101 markets show that out of a total world market for 1,300 aircraft in the 30-seat, 30,000 lbs weight category, EH-101 can expect to secure some 250. For a naval market of 900 aircraft, EH-101 could secure about 300.

In the utility helicopter market for that size of aircraft amounting to some 700 to 800 machines, EH-101 could expect to win some 250, giving total sales of some 800 aircraft up to the end of this century or just into the next.

Beyond the EH-101, plans for other major European collaborative ventures now being refined include a new light attack helicopter based on the Italian Agusta A-129, to be called the Tonal.

This is a joint venture between the UK, Italy, Spain and the Netherlands, but no formal go-ahead for the venture has yet been given by the governments concerned.

The UK's decision, however, to pull out of the plan for a NATO helicopter for the 1990s, the so-called NH-90, on the grounds that there is not only no money for it in the UK defence budget but also no requirement for it in the light of the EH-101 development is not thought likely to kill that venture off.

Currently, the other partners are considering the situation. The Italians may well follow the UK's line and also opt for the EH-101, in place of NH-90.

That would leave only the French, West Germans and Dutch to consider NH-90, but their combined helicopter requirements for the various roles planned for the NH-90 are such that several hundred aircraft could still be built, an they may well accordingly decide to press ahead with that programme. Decisions are likely before the end of this year.

At the same time, however, the EH-101 partners themselves can be expected to lobby the other countries with a view to seeking from them either orders for the EH-101, or to encourage their sub-contractual participation in it.

Many of the roles originally envisaged for the NH-90 could be fulfilled just as well by adapting the EH-101, to provide versions equipped for troop transport, search and rescue, electronic warfare, an airborne command and anti-surface warfare, vessel replenishment, and minelaying.

With several hundred EH-101 aircraft already planned, that project is set to become one of the biggest helicopter programmes over undertaken in Western Europe. Many UK helicopter observers believe that once the EH-101 is flying and demonstratig what it can do, attitudes among other European will change.

Moreover, the EH-101 is already one of the world's most advanced helicopter designs, especially in its rotor techonology, and it seems difficult to believe that there could be any further major breakthroughs in the timescale proposed that could provide the NH-90 with a performance sufficiently superior to justify its development in competition with the EH-101.

One of the major long-term helicopter programmes now under way in the US that could have a profound impact on military helicopter markets is the so-called LHX (for Light Helicopter Experimental), a plan for the US Army to buy up to at least 5,000 of a new type of helicopter in two versions, a scout/attack aircraft and a utility vehicle, to replace several existing ageing types.

The US Army has been under some criticism recently for its failure fully to define the required operational capabilities of the new helicopter, so that full-scale development may begin.

Nevertheless, substantial funding for research and development of the new helicopter has been allocated in current and future defence budgets, amounting to more than $1bn, so that industrial work on the venture is proceeding.

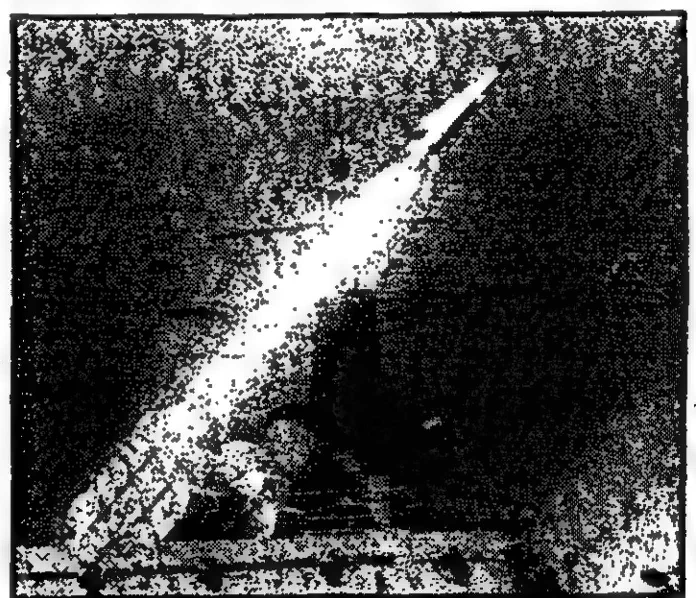
Two major teams from the US helicopter industry have been formed to bid competitively for the deal—Boeing Vertol and Sikorsky Aircraft, part of the United Technologies group, and McDonnell Douglas Helicopter and Bell Helicopter Textron.

Each team is expected to build up to seven prototypes of the LHX for a competitive fly-off. The winner will then be given a major production contract, but eventually, all the major US helicopter companies are expected to be involved in the venture.

The LHX programme is already driving helicopter technology into new advanced development areas. The Boeing-Sikorsky team, for example, has already flown a "fly-by-light" helicopter using fibre optics for the flight control system as part of what is called the Advanced Digital Optical Control System.

Michael Donne

The Westland Lynx 3 is the latest version of this multi-role helicopter, developed to fill the requirement for new battlefield and naval helicopters for the late 1980s and early 1990s.



The British Aerospace Seawolf is the Western world's only specialised operational anti-missile missile system. Designed to counter anti-ship missiles of all types, Seawolf is in operational service with the Royal Navy aboard its Type 22 frigates.

The Starstreak shoulder-launched, high-velocity close air-defence missile, developed by Short Brothers of Belfast, is now in quantity production following a big order for the weapon from the UK Ministry of Defence.

Missiles

Rise in manufacturing sources

DEVELOPMENTS in guided missiles continue to dominate much of the highest technology in aerospace equipment manufacturing companies.

At the same time, there is evidence that more missiles are emerging from countries with previously undeveloped or undisclosed skills in missile technology. Some of the developing nations are emerging as potentially powerful sources of missiles, at least for their own armed forces.

This could have the effect of closing some previously lucrative overseas markets to traditional Western manufacturers of guided weapons. It could also lead to the Western missile companies seeking to develop new, simpler and cheaper products to compete for sales in world markets.

India recently test launched its first surface-to-air guided missile, the Agni, Mr Arun Singh, the Minister of State for Defence, told Parliament in Delhi recently. Another four India-built missiles are under development, the long-range surface to air missile Akash; the surface to surface Prithvi; the Trishul anti-aircraft missile and the anti-tank gaided missile, the Nag.

The Japanese ground self-defence force is to buy launchers for a new medium-range anti-tank missile developed by Kawasaki and the air self-defence force is to buy launchers for short-range air defence missiles, from Toshiba, in funding arrangements in fiscal 1987.

Israel has developed a new point defence missile, the Barak-1, with the work divided between Raphael, ELTA, a subsidiary of Israel Aircraft Industries, and MBT. Ground tests on the missile started last year and the first trials at sea are expected to take place over the next two years. The missile is expected to enter service with the Israeli Navy in the early 1990s.

Israel also has a land-based version of the Barak-1 and Rafael has formed a partnership with Westinghouse, the US radar company, to try to sell the missile radar combination to the US Defense Department for the DIVAD air defence contract.

The UK is currently considering whether to enter the seven-nation short-range anti-radiation missile programme (Srarm). This proposed programme is under preliminary evaluation by the UK, the US, West Germany, Canada, Italy, The Netherlands and Belgium.

At the same time, France and the UK have had tentative talks about the possibility of co-operation on the development of cruise and stand-off nuclear armed missiles.

Analysts Frost and Sullivan report that increased demand for missiles and a lull in jet fighter building has brought a change in military programming in Europe where missiles have moved from a fifth of present market value against a third for fighters, to one third missiles and one quarter fighters. In 1986, $5.1bn in fighters and $3.5bn in missiles were produced.

In the UK, the Royal Air Force is to increase by 50 per cent the number of British Aerospace Rapier surface-to-air missile fire units deployed to defend RAF bases in the UK. The extra units will be obtained by using Rapier systems currently unused in the repair workshops.

British Aerospace and its recently acquired wholly-owned subsidiary company, Royal Ordance, have had problems wtih the RO Nuthatch rocket motor for the BAe Alarm air launched anti-radar missile. The missile is designed to destroy radars associated with hostile surface-to-air missile batteries and anti-aircraft artillery.

BAe is expected to make a final decision this summer on whether to proceed with the Nuthatch motor for Alarm, or to choose another motor, possibly from MBB of West Germany.

BAe was awarded a £200m fixed price contract for the development and production of the Alarm in 1983. The company is expected to produce up to 700 Alarm missiles for the Royal Air Force, but first deliveries of the missiles to the RAF are likely to be late.

The first three firings of the Alarm missile took place early this year, the first two firings being of non-guided missiles. The third firing involved a fully-guided missile which homed on to a target representing a radar source.

British Aerospace has designed Alarm to be able to loiter after firing from the carrying aircraft, such as the Tornado. The missile climbs from the aircraft to altitude before deploying a parachute which keeps it suspended for several minutes while it searches for radar targets below.

The leading armies of Nato in Europe are to get the multiple launch rocket system, MLRS, under the terms of a multinational contract, signed in May last year by the UK, France, West Germany and Italy. The MLRS is designed to fire salvoes of rockets on unguided, ballistic trajectories.

By 1994, the armies should have taken delivery of 342 MLRS launch units, with West Germany taking 200 systems, France 55 systems, Italy 20 systems and the UK 67 systems.

The first deliveries of the system were to have taken place next year, with eight launcher systems each for the West German and British armies, but this timetable appears to have slipped by about a year because of difficulties with worksharing arrangements.

The MLRS contracts are managed by the MLRS European Production Group (EPG), based in West Germany. EPG operates as the prime contractor for the constituent companies in the group.

These are Hunting Engineering in the UK with a 26 per cent share, Diehl of West Germany with a 50 per cent share, Aerospatiale of France with an 18 per cent share and SNIA-BPD of Italy with 6 per cent.

In the US, the prime contractor for the US Army is LTV Aerospace and Defense, which formed the MLRS International Corporation with EPG last autumn to hold the exclusive marketing and contracting rights for the MLRS weapon.

The four armies eventually will receive a total of 150,000 M-77 rockets each designed to dispense bomblets and 20,600 AT-2 anti-tank-mine dispensing rockets.

The MLRS weapon ultimately will be fitted with terminally-guided submunitions, (TGW), which will be designed to acquire and attack targets independently after release from the rocket. Hughes of the US, British Aerospace, MBB, Bodensee Geraetetechnik and Aerospatiale are all involved with this programme.

The definition phase of the project was to have been under way this year, but is unlikely to start much before the end of next year. MLRS weapons fitted with the terminally-guided submunitions are expected to enter service in 1994.

In the US, President Reagan has urged Congress to lift its ban on the testing of an anti-satellite weapon against a physical target in space. The anti-satellite weapon is a missile fired from an F-15 fighter aircraft flying at high altitude.

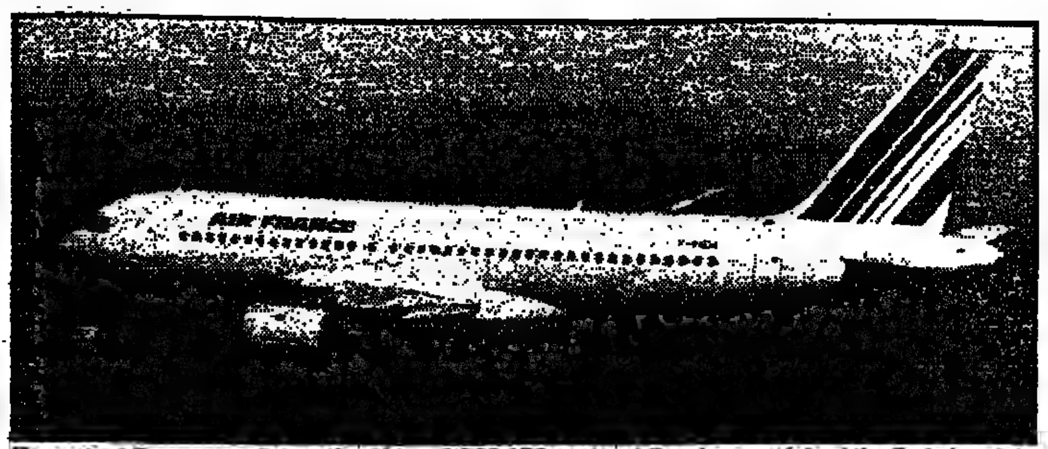
Congress imposed a moratorium on testing the non-nuclear "miniature vehicle" anti-satellite weapon and the White House believes this has undercut the stability and the ability of the US to deter conflicts. The President wants the anti-satellite system to counter Soviet satellites that provide targeting information.

The F-15 anti satellite system has already been tested several times against a point in space target, but only once against a physical target.

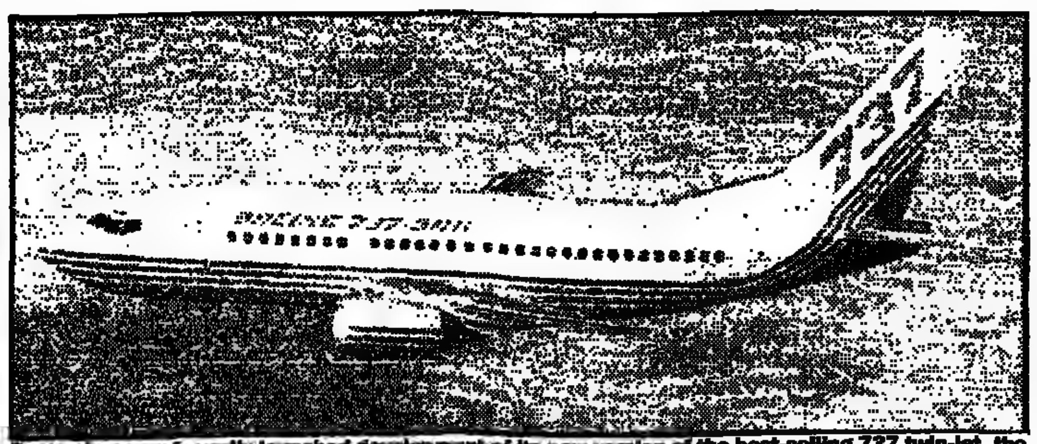
The US is considering a guided missile defence programme for the defence of short range, or theatre operations. The idea has its origins in the Strategic Defence Initiative, President Reagan's "Star Wars" missile defence programme.

At the same time, a new consortium has been formed to compete for a US Navy contract for an advanced air-to-air missile to replace the AIM-54 Phoenix in the 1990s. Hughes Aircraft and Raytheon have joined forces for the programme, with McDonnell Douglas Astronautics as the principal subcontractor.

Lynton McLain



The second European collaborative Airbus A-320 150-seater airliner has now joined the first aircraft in the flight-test programme. The A-320 is due to enter service in spring 1988.



Boeing has now formally launched development of its new version of the best-selling 737 twin-jet, the 100-110 seat Series 500, which will rival the Fokker 100 in world markets.

Air transport

Running into losses despite expansion

ALTHOUGH THE world's airlines are enjoying a steady growth in both passenger and cargo traffic, it is expansion substantially without profitability, for while some of the major airlines make profits, many others are incurring losses.

The International Civil Aviation Organisation, the aviation agency of the UN, has estimated that last year no fewer than 950m passengers flew on scheduled international and domestic services worldwide, including the Soviet Union and China, an increase of 6 per cent over the previous year, and that for the immediate future, traffic growth of somewhere between 5 and 7 per cent a year is likely.

Even if the vast mass of Soviet traffic is eliminated from this total, it is clear that throughout the rest of the world, there is still a substantial volume of scheduled traffic, amounting to over 800m passengers.

An analysis by the International Air Transport Association, which lists over 150 of the world's major airlines among its members (although the overall world total is estimated to amount to more than 600 airlines of all sizes and types) shows that although during 1985 those airlines collectively earned operating revenues of $77.1bn, their expenses amounted to $74.7bn, yielding an operating profit of $2.4bn.

But after interest, taxes, subsidies and other items, the net result was only a profit of about $900m, or only 1.2 per cent of revenues.

For 1986, preliminary results indicate a net loss of $250m, on increased operating revenues, in a year when traffic rose overall by about 1 per cent for the IATA members, or 5 per cent worldwide if the non-IATA members' results are also included, according to figures issued by the International Civil Aviation Organisation.

For 1987, IATA is forecasting a further growth in traffic of 7 per cent, and a positive financial result of several hundred million dollars.

The association points out, however, that so far less than half the year has run, and the eventual result is still finely balanced and could be affected significantly by dollar exchange rate fluctuations, changes in fuel prices, and moreover a continuation of the pressures for cheaper fares which have already substantially cut the industry's revenue yields.

The IATA says that the industry is still a long way short of being able to finance the investment of well over $200bn that will be needed for fleet renewals by the mid-1990s, involving some 4,000 new aircraft, of which some 1,800 are likely to be replacements for existing ageing fleets.

These figures cover only the member-airlines of the IATA itself. For the total world fleet, the numbers of aircraft and the cost involved are rather higher.

IATA adds that for 1986 and 1987 the pre-tax profits of international scheduled services are likely to be only between one and two per cent of revenues "which is some 7 percentage points short of what is estimated to be the minimum average long-term requirement to finance investments and maintain profitability."

The industry's vulnerability to sudden sharp fluctuations in demand was clearly indicated by the *situation early in the* summer of 1986, when in the light of the US bombing of Libya, the Chernobyl disaster, and increased fears of terrorism against US citizens, US tourist traffic to Europe fell away sharply.

Although there was subsequently a recovery, the result for the year on the North Atlantic route between all North American and European gateways was a decline of 8.9 per cent to just over 21m total passengers on that route.

Despite that situation, however, the airlines still did not learn the lesson and cut capacity by an appropriate amount. The number of seats on the route decreased by only 1 per cent to just over 33.15m, with the result that the passenger load factor fell by 5.5 points to 63.6 per cent.

To a large extent, this was a reflection of the intense competition that prevails on the North Atlantic route, that is now starting to be mirrored elsewhere, *especially* in Western Europe as a result of Governmental pressures, especially from the UK, for increased competition and greater liberalisation.

Nobody, least of all in the UK, is seeking US-style de-regulation in Western Europe, especially in the light of what many believe to be the near-disastrous results of deregulation now emerging in that country, where many smaller airlines have been forced out of business, and in their place, as a result of mergers, a small handful of "mega-carriers" is emerging.

One result is that standards of service in the US have started to fall, and complaints against poor quality of service on the ground and in the air, congestion and delays, and even lower standards of air transport safety, are increasingly being heard.

In Western Europe, the aim is to achieve deregulation by an evolutionary, not revolutionary, approach, with airlines able to start new services without unnecessary restraint, and free to charge cheaper fares so as to unlock the vast market of millions of passengers who have never yet flown.

Inevitably, many European airlines, supported by their governments, are suspicious of this approach to deregulation. They see what has happened in the US, and do not want to see it happen in Western Europe.

Moreover, they argue that, with the airline industry in its current financial state, a further burst of fares-cutting can only do harm, not good no matter for what grand reasons it is proposed.

The UK's view is that the opposite is true, and it points to *the success of airlines on the* UK-Dutch air routes, following the "open skies" agreement reached between those two countries some time ago, as indicative of the success of such a policy.

But the UK is pressing on, and although progress is slow, there are signs that its persuasion is beginning to pay off. The UK Government remains hopeful that even within the next few months more and more airlines in Western Europe will come to recognise that a more liberal regime can only benefit the civil aviation industry.

Nevertheless, there are some in the European industry who foresee the growth of competition as eventually resulting in the development of US-style "mega-carriers" on this side of the Atlantic, with only a few of the current national flag airlines surviving.

The picture is of the emergence of some form of "Pan-European Air Union," with many of the smaller carriers being gobbled up. Whether this comes to pass remains to be seen, but it is a possibility that is being closely watched by many European air transport observers.

Also there is growing concern in Western Europe at the penetration by US airlines with their big and powerful computer reservations systems, which many fear could dominate Europe by the end of this decade to the exclusion of local national systems.

To combat this, the Association of European Airlines, representing over 20 of the major European carriers, is seeking to establish an "umbrella" type of "global distribution system" that would link all the European airlines' individual sys*tems under one software system* so that each could benefit from the wider operational opportunities without prejudicing their individual investments in existing systems.

It is against this background of weak finances and stiffer competition that the airlines have to find the money to pay for the re-equipment of their fleets over the years ahead, both to meet the needs of traffic growth and to replace existing ageing aircraft.

The IATA comments that, up to 1985, the industry has incurred only three years of profitability on operating account, while the net results have been diminishing and are still well below the levels needed to finance future development.

In the light of their current financial difficulties, the airlines are turning increasingly to the concept of leasing, rather than outright procurement as a means of solving this problem, although the latter is still undertaken where special tax concessions are available to ease the burdens of interest debt on balance sheets.

The leasing concept is now becoming the dominant element in sales financing, however. While the concept of leasing itself is of long standing in the aviation business, the character of leasing has been changing: whereas previously the emphasis was on "finance leasing" whereby financing institutions enabled airlines to buy aircraft by instalments ("buy as you fly"), today the concept of "operating leasing" has become more prevalent.

In this system the leasing company buys the aircraft for cash from the manufacturers, and the airline takes it over for a given period of time in return for *annual payments*. Ownership remains with the leasing company, and the airline earns the cash to make the annual payments while flying the aircraft.

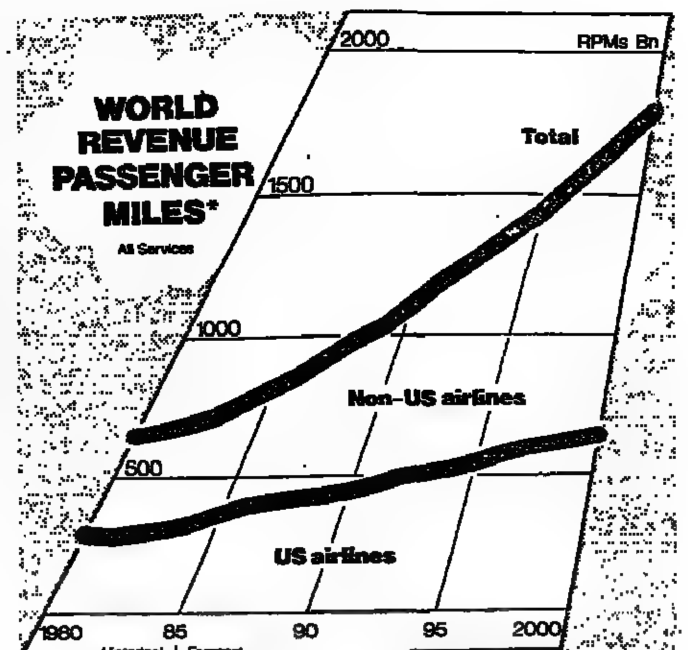
Operating leasing makes it easier for airlines to respond to market requirements, giving them flexibility. If at the end of the period the airline wishes to renew the lease, it can do so. Otherwise, it can return the aircraft to the lessor company, which in turn can either sell it to recover the residual value or lease it on to another operator.

Airlines like operating leases because, at a time of swiftly-changing technology, and of market volatility, they can vary their fleets to meet those changes without difficulty. Lessors like the system because, in the current situation of expanding traffic and newly-emerging airlines, there is little difficulty in finding new customers for aircraft returned to them.

At the same time, the airframe and engine manufacturers themselves are becoming increasingly involved in helping their customers find the finance to buy their products, and have also become involved in providing or guaranteeing part of the cash themselves. This is done through separate financing companies which the manufacturers have either set up or in which they participate.

Manufacturers have little option but to participate in such activities in view of the fierce competition in the airframe and engine markets. The manufacturer that does not, puts itself at a considerable disadvantage against its competitors.

Michael Donne

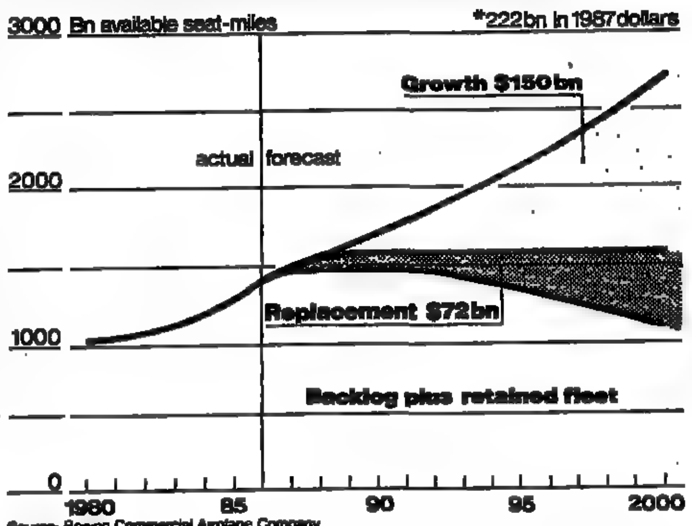


Average annual percentage growth rates

	1970-85	1985-90	1990-2000	1985-2000
US	5.4	5.0	3.7	4.2
Non-US	8.9	6.6	5.8	6.1
World	7.2	5.9	5.0	5.3

*Excludes USSR & non-ICAO but includes China & Taiwan

World transport aircraft market



Source: Boeing Commercial Airplane Company

Advanced building methods and materials are transforming the ways in which aircraft are built and pilots trained to fly them

Fitting lightweight aluminium lithium wing panels to a McDonnell Douglas F-15 Eagle fighter

New materials

Testing times for composites

NEVER CAN a decision on a new material have played a more crucial role in the fortunes of a company than was the case with the carbon fibre fan blade that helped bring Rolls-Royce to bankruptcy in 1971.

The company was unable to develop its RB-211 engine in the timescale it promised and a key aspect of that failure was its decision to use a novel and much lighter material—carbon fibre composites—for the big fan.

It took more than another decade to perfect the light blade and reap the full benefits its designers were hoping in the early 1970s. And when the blade arrived the technology was quite different from the carbon fibre composites, which had failed to resist bird-strike and other matter through ingested engine intakes.

Fittingly enough, however, in the year of the company's triumphant return to the private sector Rolls-Royce wins a Queen's Award for the technological innovation of its latest lightweight, wide chord fan blade.

This blade is a composite of titanium materials. Thin skins of rolled titanium alloy form the two side panels of each blade. These skins are assembled in dies, twisted while in a furnace, then hot formed to give them their characteristic twist.

The panels are then chemically milled to leave a recess for the "filling" they are to sandwich—a honeycomb of titanium that provides the strength at much lower weight than the solid forged titanium alloy blade it supplants. Panels and honeycomb are finally fused into a single structure by automated diffusion bonding.

The engineering and manufacturing team for wide chord fan blades at Derby and Barnoldswick receive the award for the complex manufacturing method they developed. It was evolved originally for the RB-211-535E4 engine for the Boeing 757 and has since been used for blades in the Tay engines for the Gulfstream IV and the Fokker 100, the V2500 engine under development for the Airbus A-320, and the RB-211-524D4D for the Boeing 747-400.

Carbon fibre composites are far from dead in aeroengine design, despite the traumatic experiences of Rolls-Royce. But the wide chord fan blade, once regarded as an ideal application, is no longer seen as an appropriate use of the material.

Carbon fibre can offer the immense tensile strength needed to resist centrifugal forces in the spinning blade, but not the impact strength needed to withstand secondary forces. So the designers reverted to metals and worked at raising their strength-to-weight ratio.

For lightweight containment, however, carbon fibre composites have found a role. They have replaced casings of steel and titanium alloy, for example, in bypass duct assemblies, where a series of three assemblies are currently being made by Rolls-Royce in diameters from 4ft-7ft, and up to two feet long. These use pre-cured composites for the casing fabric, and flanges and bosses are added during manufacture.

The aerospace industry above all understands the central role of advanced materials in meeting its technological objectives for the end of the century and beyond. As the fan blade experience illustrates so vividly, advanced materials imply long and meticulous attention to design, manufacture, assembly and verification, a cycle that can last as long as the development of a new drug in the pharmaceutical industry.

Ceramic turbine blades were talked of in the 1960s when the characteristics of new engineering ceramics such as silicon nitride were becoming apparent. They have not arrived yet, but are still seen as a major step forward for turbine performance when finally perfected.

Composites of high-tensile fibres such as carbon and Dupont's Kevlar are destined to spread widely through aircraft and aerospace structures, as the industry slowly wins confidence in their unusual mechanical and electrical characteristics, and learns new ways of non-destructively testing materials with properties very different from metals.

An example of a novel test devised recently to assess the integrity of adhesive bonding in composite structures is thermal pulse video thermography, using a short-pulse xenon flash tube to drive a flaw-seeking flash of thermal energy through the material.

Among the major new entrants to this field are ICI, which is successfully exploiting its new high-performance polymer PEEK (polyether ether ketone) as the matrix for carbon fibre composites capable of resisting temperatures as high as 300 deg C; and British Petroleum, which recently bought the Californian company Hitco to exploit research into advanced composites it had been pursuing at its Sunbury laboratories.

The cost penalty aerospace is prepared to pay for an exceptional strength-to-weight ratio potentially available from such composites is well illustrated by an example drawn from an earth-bound facet of defence.

The Royal Armament Research and Development Establishment is seeking to replace its aluminium alloy system of medium-girder bridging used by the British Army. It wants to develop a system based on carbon-fibre composites.

It has set its target at composite structures only one-fifth of the price the aerospace industry is currently willing to pay, for a sacrifice of only 10 per cent in their performance. RARDE sees it as a ten-year research and development programme to provide a system by the end of the century.

Nevertheless, there is life left still in aluminium, mainstay of aerospace structures since modern aircraft arrived in the 1930s. The aluminium-lithium family of alloys invented at the Royal Aircraft Establishment, Farnborough, and developed by British Alcan Aluminium is gaining a toehold in the industry. The alloy flew in two advanced aircraft prototypes last year.

Last summer the alloys flew in British Aerospace's Experimental Aircraft Project (EAP), in the form of its control surfaces. And in the US, McDonnell Douglas last year flew its F-15 modified for STOL capability, using wing panels machined from aluminium-lithium alloy.

It is recognised that Europe is lagging behind Japan and the US in the scale of effort it is devoting to advanced materials generally, and their characterisation and manufacture. According to Battelle, the Columbus, Ohio-based contract research association, the US Government alone invested about \$1.5bn in new materials R and D last year, compared with only about \$100m in West Germany, for example.

Battelle executives say the US Government sees advanced materials as a strategic objective, which implies that its innovation will not be transferred readily to other nations in the interests of protecting its own economy.

The US has coined the phrase "artificially structured materials" to describe many of these innovations: man-made marriages that offer properties unavailable in the traditional materials. The phrase embraces composites of both metallic and polymeric matrices, as well as such concepts as the use of surface coatings to produce a dramatically improved performance.

David Fishlock

Manufacturing techniques

Change towards automation

MANUFACTURING techniques in aerospace have developed at a rapid pace in recent years and enabled aircraft and missile designers to innovate and improve their designs, often with impressive results.

The techniques have changed for several reasons. The advent of new materials, especially composites and advanced forms of metals, processed in new ways to give them new properties, have opened up traditional attitudes to manufacturing methods.

The use of composite materials, for example, offers the prospect of low-labour, automated production. This is well illustrated in the case of production of the wing for the British Aerospace Experimental Aircraft Programme, the EAP, designed to demonstrate a wide range of new technologies.

The EAP was rolled out at BAe's Warton military aircraft factory in the spring last year and is the product of industrial collaboration between 64 main contributing suppliers, from the UK, West Germany and Italy.

The wing for the EAP was made jointly by BAe and Aeritalia. The wing is described as a "co-bonded carbon fibre composite wing structure." This means it has the torsion box spars, the essential strengthening elements, bonded directly to the lower skins.

This method has reduced substantially the need for mechanical fasteners and has dramatically increased the strength of the wing, while at the same time its weight has been reduced compared with a conventional aluminium alloy wing for the same purpose.

BAe says the EAP wing is believed to be the first primary carbon fibre bonded wing structure cleared for flight. It is produced by processing the carbon fibre composite wing, complete with its torsion box spars in an autoclave heat unit, in one operation.

Assembling a carbon fibre-reinforced plastic fin for the Airbus. It weighs 22 per cent less than the old alloy ones.

This has immense implications for productivity, for opening up mass production techniques in aerospace, an industry that traditionally has been heavily dependent on skilled manual labour for assembling airframes and wings.

The process for making the carbon fibre wings also lends itself to automation in a simpler way than attempts at automation of, for example, aluminium wing production using automatic riveting machines.

With automation, the production of carbon fibre composite wings can be achieved with greater consistency, greater reproducibility and greater overall efficiency. The EAP is a one-off aircraft, a single-seat air-superiority demonstrator aircraft, but it is widely seen as the forerunner to the multinational Eurofighter, the proposed air superiority fighter for Britain, West Germany, Italy and Spain for the 1990s.

The Eurofighter programme in total is likely to involve several hundred aircraft with the total cost of about £20bn. The aircraft will be expensive in today's terms, but the emphasis by the designers is on cutting the cost wherever possible.

Automation of the production of sub-assemblies such as the wings will be tackled if it is technically possible and if the cost benefits are suitably large, compared with existing techniques. At present it would appear that a greater degree of automation in the production of the carbon fibre composite parts is a possibility and aerospace companies are likely to explore its potential.

The EAP also uses carbon fibre composites for its foreplanes and some fuselage skin areas.

At Airbus Industrie, in Toulouse, where the Airbus airliners are assembled, there has traditionally been an emphasis on composite materials. In particular, the Airbus A310 airliner has been in production since 1985 with a weight-saving carbon fibre reinforced plastic fin. The A310 is still the only airliner being built with major composite parts.

The Airbus A320 twin-jet 150-seat airliner, which had its maiden flight earlier this year, has a fin and tailplane made entirely of carbon fibre reinforced plastic. These sub-assemblies are lighter and have fewer parts than metal units.

The A320 airliner has other innovative features that make it a landmark in civil airliner design and manufacture. It was the first airliner to be completely designed and created with computer-aided design, CAD.

This extensive use of CAD techniques gives a pointer to the way Airbus airliners may be produced in the future. Computer-aided design is an essential part of computer-aided manufacturing, where the CAD process, designing aircraft on visual display units and using computer power, can be dovetailed into the final manufacturing process.

Already the automobile industry in some countries, including Austin Rover in the UK, uses computer-aided manufacturing techniques in the design and production of cars.

The data from the computer-aided design facilities can be fed directly to the computer-aided manufacturing facilities and parts can be made directly from the visual display unit information.

This is the ultimate way forward for aerospace manufacturing and production techniques. Progress is accelerating as the costs of aircraft production rise and the competitive atmosphere in world aerospace markets increases.

The use of computers for the ultimate production of aircraft, linked with advanced techniques for forming materials, such as super plastic forming and diffusion bonding of titanium, offers the prospects of high precision and consistent quality. Human error can be reduced and the pace of production line operations increased.

Lynton McLain

Training techniques

Simulators more realistic

TRAINING techniques for civil and military aircraft users are becoming increasingly dependent on the use of electronic, computer-based simulators and, as a result, a multi-company world market has developed.

Simulator technology enables pilots to train for future flights on their airliners or military combat aircraft without leaving the ground. The benefits include low-cost training, the ability of the airline or air force to keep their aircraft operational—either earning money or available for combat resspectively—while simultaneously training air crew in realistic simulations of flying.

The flying conditions it is possible to include in a computer software training programme for simulators are as varied as actual flying conditions. What is more, the makers are able to simulate crisis conditions for the trainee pilot without endangering the lives of crews and valuable aircraft.

Storms, squalls and an endless variety of system failures can be simulated, training the pilot to cope with different kinds of emergencies in a short space of time.

The manufacturers of training simulators produce equipment tailor-made to individual aircraft. Rediffusion Simulation of Crawley, Sussex, which claims to be Europe's largest manufacturer and the only wholly-owned British company producing flight simulators and associated procedral trainers for civil and military aircraft, has made more than 400 simulators and trainers and 350 visual systems since 1950. The equipment covers 75 aircraft types.

Rediffusion Simulation says it currently holds 40 per cent of the commercial flight simulator market around the world. Other leading world manufacturers include CAE of Canada; Singer of the US; Thomson-CSF of France; Atkins and Merrill of the US, with sales successes in executive jet aircraft and airliners; Curtiss Wright; Flight Safety International; the Japan Radio Corporation; Mitsubishi and Reflectone.

In the UK, Singer flight simulator equipment is produced at the Singer Link-Miles factory at Lancing, Sussex. Singer's Link Flight Simulation Division was awarded a \$14m contract by Boeing last autumn to produce the first flight simulator and associated training equipment for the latest version of the Boeing Jumbo jet, the Boeing 747-400.

The visual system on the simulator will be the micro-processor-based IMAGE IV, to be displayed on the AWARDS aircraft wide-angle reflective display system. The IMAGE IV visual system gives a full texture display, giving sharp realism to the scene outside the cockpit.

Singer says the system's increased surface detail results from twice as many surfaces per channel and twice as many texture patterns as have been available in previous systems.

So complex has training by computer simulators and their associated equipment become that simulator manufacturers have devised a training management procedure to handle the increasing complexity. This is known as total training systems management, in which one contractor takes responsibility for the complete training process.

This can include the structure of the training programme; the development and production of manuals, computer programs, simulators and other training aids; maintenance of the simulators and management of the training programmes.

Singer says this concept contrasts with the conventional means of training, where the individual parts of a training scheme are bought separately by the customer.

Under the total training concept, the customer specifies the end product, the number of trained pilots wanted for future airline or military needs. The contractor then produces a specification for a comprehensive programme to meet that need.

The US Air Force chose Singer to develop and manage the aircrew training approach for the C-130 Hercules transport, in a \$11.5m initial development and operations contract. The company says the total value of the programme is expected to exceed \$240m.

Mr William D. Turner, the vice-president for Singer's Training Systems group, says: "This award represents a major step in an important emerging trend in high-technology training. Until now, most of the training for pilots and operators of other complex equipment has been conducted on the basis of awarding separate contracts for the various elements of the programme."

Under the contract, Singer's SimuFlite division will conduct the day-to-day training operations; the company's Allen division will look after programme design and course material; the Link Flight Simulation division will modify and update the simulators and related training programmes.

The Hercules contract involves simulator training of Air Force personnel by a private sector contractor. This replaces completely instruction by Air Force officers and staff and saves USAF manpower to be used for other purposes. The Air Force will still carry out the flight training and flight evaluation training.

Under the terms of the agreement between Singer and the US Air Force, Singer, the contractor, guarantees the finished "product" to be a qualified student pilot. If a student fails to qualify, the contractor is obliged to retrain the student at no additional cost to the Air Force.

The Hercules contract is also the first to include tactical airlift and combat tactics training for cargo aircraft and the training programme is expected to be fully operational in three years.

In the UK, tenders have been requested by the Ministry of Defence to provide the Royal Air Force with five flight simulators to go with the introduction into service of the RAF's new Tucano basic trainer aircraft.

The MoD wants the tenders to be for simulation systems that offer a performance with a "high degree of realism in the simulation of front cockpit layout and response to control inputs, including motion cues." Bids have to be submitted to the MoD by June 18 and stiff competition is expected for the contract from UK companies in the flight simulation field.

Bidders include the Warton division of British Aerospace, CSE Aircraft, Easams, Ferranti Computer Systems, Singer Link-Miles and Systems Designers.

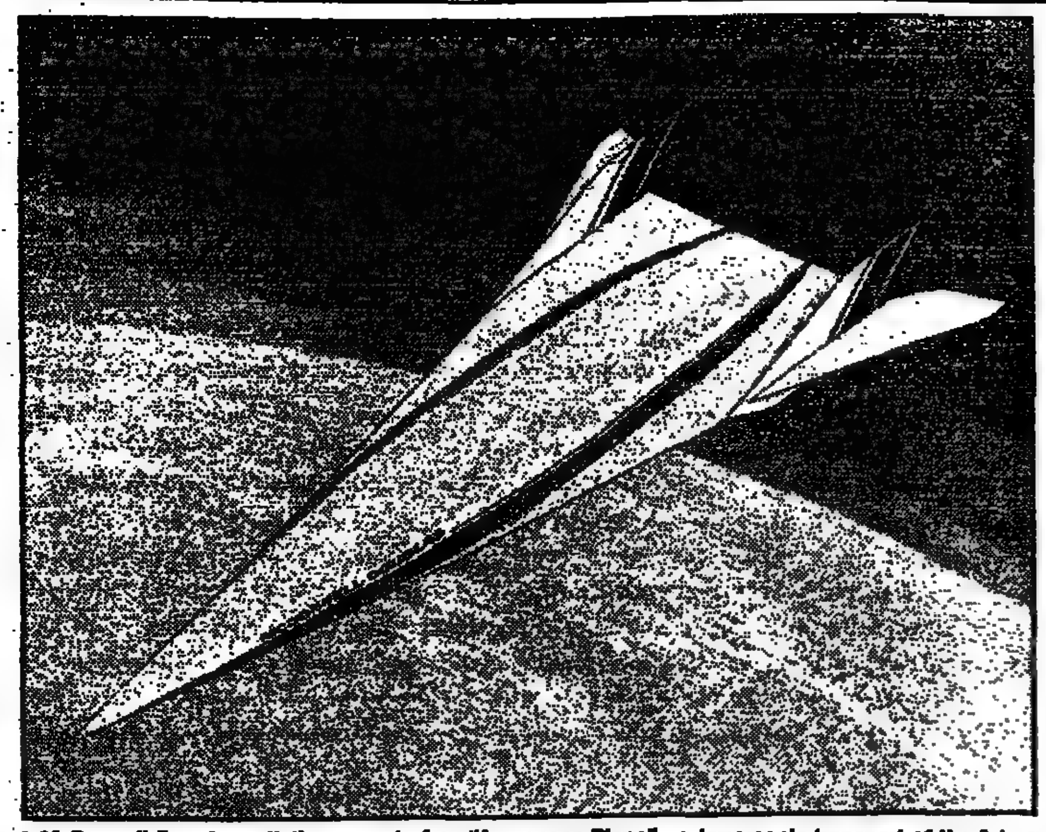
The first simulator is to be delivered 20 months after award of the contract. The simulators will have to have facilities for a student pilot and an instructor.

Rediffusion Simulation was awarded approval by the US Federal Aviation Authority last year for a continuous field of view display. Following this approval, all training can be carried out in Rediffusion simulators, including pilot conversion from dissimilar aircraft types. Rediffusion claims this approach reduces operating costs and eliminates training flights around busy airports.

The Rediffusion simulators incorporate six degrees of free motion. The simulators reproduce precisely the flight characteristics of an aircraft and give the trainee pilot a "feel" for the real aircraft.

The company has developed its WIDE II, wide-angle infinitely display equipment, which stretches the horizontal field of view to 200 degrees. This is especially useful for training helicopter pilots as well as some fixed wing aircraft.

Lynton McLain



A McDonnell Douglas artist's concept of an "Aerospace Plane"—a hypersonic transport of the future

Hypersonic flight

Engineers on track

INTEREST ON both sides of the Atlantic in the possibility of developing new generations of supersonic or very high speed (hypersonic) aircraft for military, space or commercial service by the end of this century has been quickening in recent months.

There are now few engineers in either the European or US space industries who doubt that such vehicles are feasible technologically, even if they have to accept that financing them could prove to be the most difficult hurdle to overcome in bringing them to fruition.

In Western Europe, apart from the more ambitious long-term joint Rolls-Royce and British Aerospace ideas for an Earth-to-orbit and return "aerospace plane" or "trans-atmospheric vehicle" called Hotol, Aerospatiale of France, one of the original partners in the Concorde supersonic airliner, has been studying ideas for a very high-speed or HSCT (Hypersonic Commercial Transport) successor to the Concorde aircraft.

This would be an aircraft capable of flying up to Mach 5, or five times the speed of sound, or about 3,000 mph, which Aerospatiale calls the AGV or Avion a Grande Vitesse.

This, so far, is only a design, although some wind tunnel work has been undertaken. Theoretically, it would fly at heights up to about 100,000 ft, carry up to 200 passengers (twice Concorde's capacity) and have a range of some 7,500 nautical miles.

Whether this AGV is ever built remains to be seen, but it does reflect the thinking in Europe about this type of aircraft, and indicates a determination not to be left behind the US in the overall field of very high speed aircraft research, whether for commercial or military-cum-space roles, or both.

For virtually all the major US aerospace airframe and engine manufacturers now also have teams in one way or another researching into such ventures, mostly with cash from the US Department of Defence and National Aeronautics and Space Administration under what is called the National Aerospace Plane project, or NASP—a long-term idea for a very high speed earth-to-orbit-and-return vehicle, designed initially for military and space research applications.

The $3.3bn NASP, or X-30, research programme, now being conducted for the DoD and NASA by the US Air Force, is primarily intended to lead initially into a military or space hypersonic craft.

It is regarded as the largest research aircraft project ever undertaken by the US, and is the first hypersonic aircraft programme to be initiated after many years of hiatus, following cancellation of the original US supersonic airliner programme in the mid-1960s.

Virtually every major US aerospace airframe, engine and equipment company is involved in the work in one way or another. The current objective is to build two X-30 research aircraft, that might fly as early as 1993.

Much of the current X-30 research is classified, but the initial object appears to be to develop a vehicle, fuelled with liquid hydrogen and carrying only two pilots, to fly on an experimental basis and be capable of sustained cruising at speeds exceeding five times that of sound in the upper atmosphere but also capable of massive acceleration to 25 times the speed of sound for orbital flight.

The craft would be able to use normal runways, climb to high altitude, and then soar into orbit, returning to land like a normal aircraft after its mission.

Reports from the US indicate that significant progress is already being made in such key areas as advanced materials technology, in engine design, including the clarification of "scramjet" or supersonic/hypersonic advanced propulsion techniques, and in fuel technology, including the use of liquid hydroger

The next stage in the venture will be for the X-30 Joint Programme Office of the US Air Force at Wright-Patterson Air Force Base, Ohio, to draw all the threads together this summer in readiness for a major "concept review," to be conducted later in the year on both the airframe and the engine for the projected ultimate X-30 flying research vehicles.

Upon that will depend the next move into selecting specific hardware designers and manufacturers for the two projected research vehicles, the contracts for which will be awarded in 1989.

Current ideas for the X-30 may still therefore undergo some considerable changes before any flying vehicle emerges in the 1990s. In the meantime, costs are being carefully scrutinised by the General Accounting Office to ensure that the burden is not too heavy for the US to bear.

These procedures may appear to be lengthy and cumbersome, but they are probably the best, and indeed, the only way in which any country can move into such an extensive and expensive programme as the X-30 itself will eventually prove to be.

What many engineers in the US aerospace industry are hoping, however, is that by conducting this type of very high-speed research on the back of a military-cum-space budget, ideas will crystallise in the interim for the less ambitious, but still considerably far-reaching concept of a commercial "hypersonic commercial transport" or HSCT.

Indeed, many in the US aerospace industry believe that much of the initial research into the ultimate X-30 "transatmospheric vehicle" or "aerospace plane" could in fact be beneficially employed in either the interim, or even the parallel, development of some form of hypersonic airliner that might be able to fly at speeds up to about five times that of sound (Mach 5 or about 3,000 miles an hour), carrying some 300-400 passengers at 100,000 ft over distances of several thousand miles.

In that way, it is argued, there would be a commercial return for the high cost of what would otherwise be solely a military-cum-space "transatmospheric vehicle" or "aerospace plane" yielding no commercial return at all.

Various ideas for such a hypersonic commercial transport were aired some time ago at a special High-Speed Commercial Transport symposium at the Battelle Institute in Columbus, Ohio.

It was made clear not only that much of the technology required for such an aircraft either existed or was feasible to achieve, given the research and development funds to do it, but also that some airlines, such as Northwest Airlines and Federal Express, were already interested in its possible eventual development.

Such an aircraft would have to use different types of fuel from today's aviation kerosene, such as methane gas, or liquid hydrogen and liquid oxygen, but it is believed that this could also be used as a coolant to offset the heat generated by high-speed flight on the aircraft's fuselage and wing-leading edges.

Such an HSCT would be designed to use the existing airport runways at major international airports, but there would be a problem in storing the substantial quantities of methane or other exotic fuels, that such an aircraft would require.

Among the various technologies that would still need to be studied before such an HSCT could become feasible, would be the variable cycle engine, capable of powering the aircraft both in the denser atmosphere at take-off and in the much thinner atmosphere at the very high altitudes or the low-orbital mode adopted for long-distance cruising, before coming down again into the denser atmosphere for landing.

Other areas requiring research would be into such devices as laminar flow control (improving the airflows over the wings and fuselages to reduce drag; new high strength-to-weight materials to resist high-temperaures but producable at very low cost, including the development of ceramics and carbon-carbon; new fuselage and wing shapes to improve the aerodynamics of the vehicle and reduce sonic boom effects; and improved high temperaure seals and fluids.

The range capability would be such as to link the US West Coast with the increasingly politically and economically important regions of Australasia, South East Asia and the Far East in little more than three hours.

This would effectively become the so-called "Orient Express" type of aircraft that has been much mooted in the US in recent months. Such a concept is undeniably attractive, especially to aerospace manufacturers always looking for new ventures to exercise their designers' minds and fill their factories with work, but it would be costly, running into many billions of dollars.

It is significant that virtually all of the studies into such developments so far have addressed the technological aspects, but have been less forthcoming on the financing.

But because of the very high costs involved in both the hypersonic commercial vehicle and the military/space aircraft, many believe that some form of international collaboration, either between governments or between industries, or both, may also have to be considered if such ventures are ever to come to fruition.

But however such ventures are financed, either collaboratively or not, and although some considerable advances have already been made, there are still many technological challenges to be overcome.

It is stressed that safety, reliability and maintainability are paramount issues still to be addressed—especially in the light of the difficlties encountered in the space programme with last year's loss of the Challenger Shuttle vehicle.

At the same time, it is stressed that no matter what the operating costs might be of a military/space hypersonic vehicle, the costs for an HSCT itself must be realistic, if airlines are going to buy it and passengers fly in it.

The possibilities of some form of international collaboration in these advanced high-speed aircraft are enhanced by the fact that, outside the US, there are some major rival concepts that may well come to fruition in the years ahead.

To waste scarce financial, engineering and other resources on competitive ventures on both sides of the Atlantic seems to many to be unnecessary, not to say even foolish. One major rival project is Britain's own Hotol (horizontal take-off and landing) vehicle which is now the subject of a preliminary £3m study by British Aerospace and Rolls-Royce in conjunction with the Department of Trade and Industry.

Hotol, if ever developed, would be able to use runways like a conventional aircraft, but would also be capable of achieving low-earth orbits. Initially intended to be unmanned, a manned version is also under consideration.

The secret of Hotol is claimed to be the revolutionary Swallow engine, designated RB-545 and still classified secret, which would combine the functions of an air-breathing engine for low-altitude operations and rocket motor for high-altitude and orbital activities.

Such an engine uses atmospheric oxygen for take-off and low altitude work like a normal aircraft, but uses liquid oxygen for orbital work.

The Hotol studies have yet to be completed, as indeed have all the studies in the US. Neither Hotol nor the US X-30 ventures are just around the corner. All that is happening is that engineers and scientists are turning their creative energies to solving the initial problems they see ahead in the development of such vehicles.

Michael Donne

Intense development has brought significant new concepts of aviation close to reality

A far-reaching impact on design

SINCE THE dawn of powered flying, aeronautical engineers worldwide have constantly sought better ways of achieving their goal of transporting people and machines through the air in safety and comfort at ever-increasing speeds.

As a result, some dramatic developments have resulted — including the helicopter (or rotary-winged aircraft) itself, vertical take-off fighters, and even the supersonic airliner.

Over the past few years, the US aerospace industry in particular has been deeply engrossed in research and development aimed at widening the scope of aeronautical achievement, with the result that some significantly new concepts of aviation have emerged.

Probably the two most significant have been the so-called "tilt rotor," developed by Boeing Vertol, a division of the Boeing group, in conjunction with Bell Helicopter Textron, and the "X-wing," developed by the Sikorsky Division of United Technologies.

Both concepts effectively demonstrate new techniques of flying that could have a far-reaching impact in the year ahead on both civil and military aircraft design.

The "tilt rotor," or the V-22 Osprey to give it the official US Defence Department name, is a concept in which engines with propellers are used in the vertical mode to lift the aircraft off the ground like a helicopter, and then tilted while in flight to perform like normal propeller-engines for conventional forward propulsion. In normal flight the aircraft can reach altitudes of about 30,000 ft and speeds exceeding 300 mph.

The V-22 Osprey is now under development, under a $1.7bn full-scale contract from the US Navy, which is managing the programme for more than 1,000 aircraft to be produced to serve the needs of all four US armed services—Air Force, Army, Navy and Marine Corps.

Under the contract, Bell-Boeing will build and flight-test six V-22 prototypes, and also construct three aircraft for static, fatigue and ground tests, with first flight set for June 1988, and deliveries starting in late 1991.

In all, 1,213 aircraft will be needed, with an initial requirement by the Marine Corps to build 552 Ospreys to replace its fleet of ageing Boeing CH-46 helicopters. The Navy itself plans to buy 350 Osprey variants, to replace Lockheed Viking S-3 anti-submarine aircraft, while the Air Force wants 80 Ospreys, and the Army wants at least 230 aircraft.

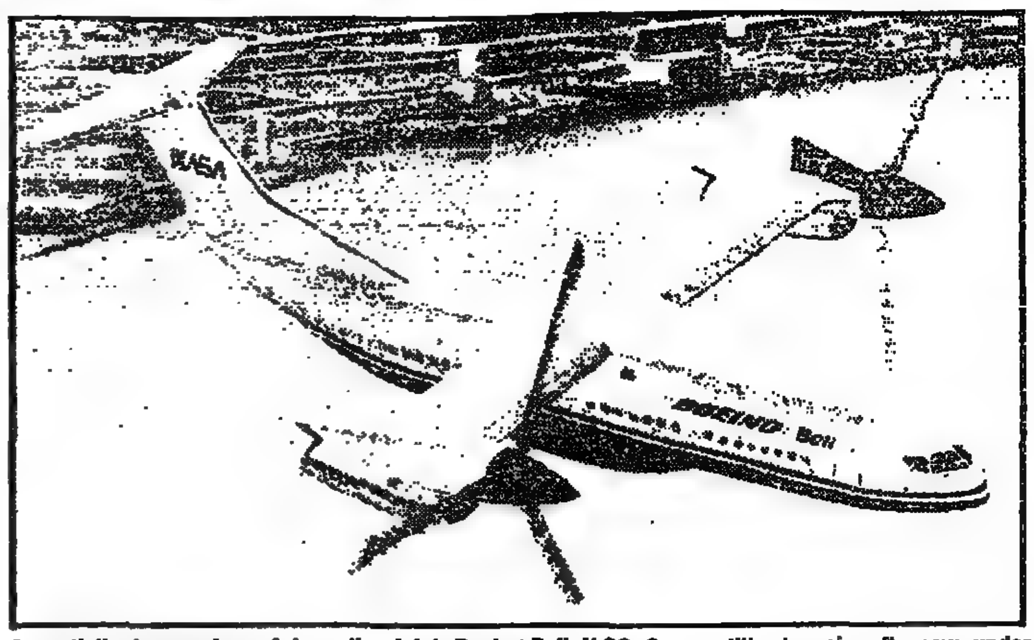
Bell-Boeing claims that the V-22 offers the US armed forces many uses which include: tactical air control support, combat search and rescue, emergency evacuation, logistics support and medical evacuation, assault missions, and special warfare support, as well as anti-submarine warfare, anti-ship warfare, amphibious assault support, and airborne early warning missions.

First flight of the production Osprey is currently set for June 1988, with the first fleet deliveries set for December 1991.

In addition, the possibility of civil versions of the Osprey are not being discounted. Bell-Boeing says that among the more immediate commercial applications of tilt-rotor aircraft are inter-city communications, especially from congested city centres, as well as long-range off-shore support of oil and gas exploration and production.

Bell-Boeing says that the US currently holds the lead in tilt-rotor technology, and that civil variants of the Osprey could be certificated and made available for delivery by 1995.

Currently, Bell-Boeing is participating in a joint study with the National Aeronautics and Space Administration, the Federal Aviation Administration and the Department of Defence to explore future commercial applications of tilt-rotor aircraft.



An artist's impression of how the joint Boeing-Bell V-22 Osprey tilt-rotor aircraft, now under development, will look

Among the configurations being considered is a 75-seat aircraft, designated the CTR-7500, a 19-seat transport, the CTR-1900, and a 31-seat transport, the CTR-22A.

The present schedule calls for this study to be completed in June 1987, and its results to be presented in July.

The other major development now under way in the US is the Sikorsky X-wing Rotor Systems Research Aircraft, which also employs a variant of helicopter technology.

This is a joint venture by Sikorsky, the Defence Advanced Research Projects Agency and the National Aeronautics and Space Administration, designed to provide an efficient combination of the vertical lift and hover performance of conventional helicopters with the high cruise speed of fixed-wing aircraft.

The X-wing aircraft takes off and lands vertically, using a large helicopter-style rotor with four big blades. Once in the air and moving forward at about 230 miles an hour, the rotor is stopped in mid-flight, and stabilised in one position to start functioning like a normal fixed-wing aeroplane, enabling the aircraft to continue flying at speeds up to 600 miles an hour.

The aircraft is powered by two General Electric turbo-shaft engines for the rotor system, and two more GE turbo-fan jet engines to provide forward thrust.

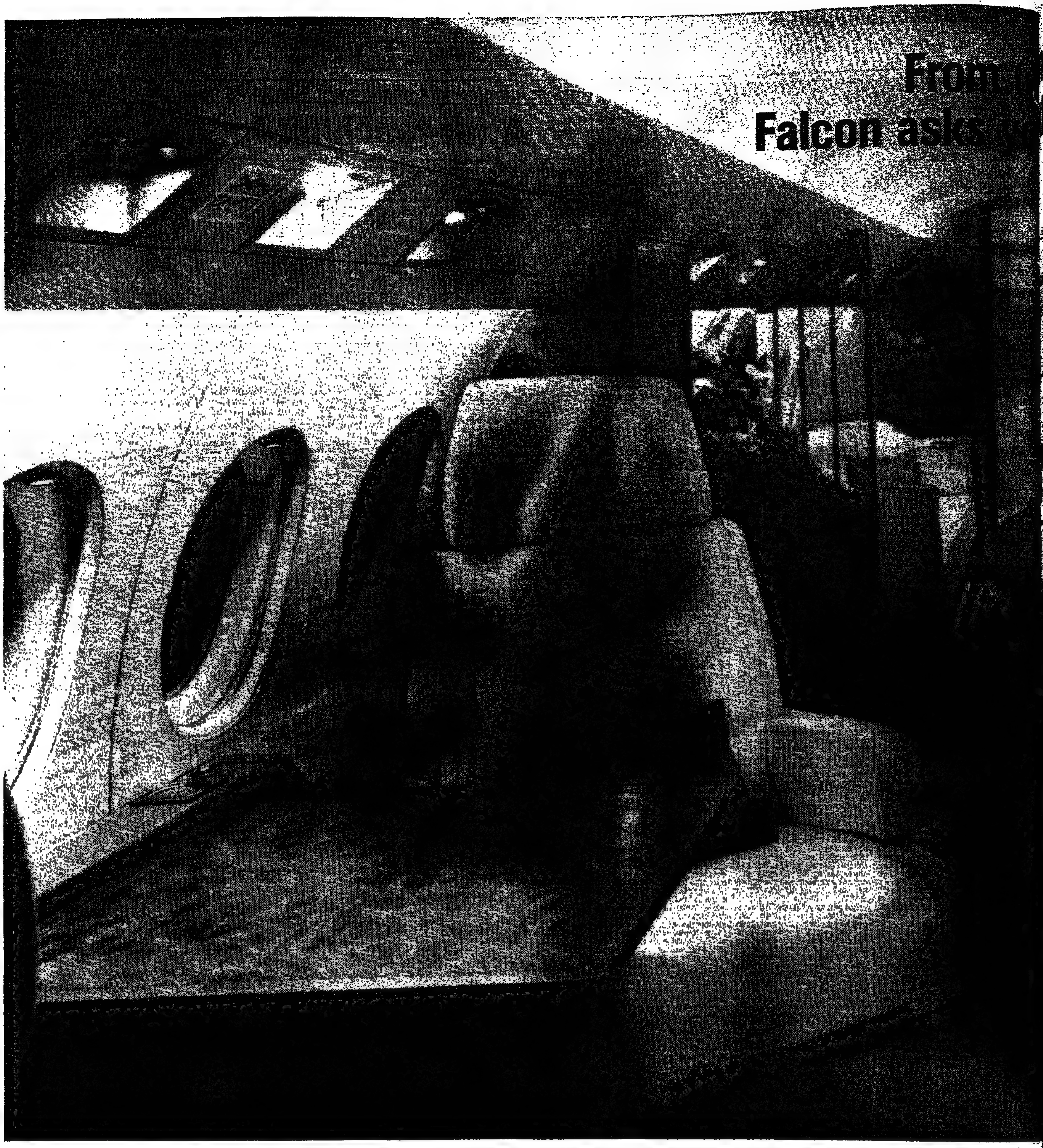
The first X-wing, mounted on a DARPA/NASA Rotor Systems Research Aircraft, has already been rolled out by Sikorsky, and a major flight test programme is now getting under way, at Edwards Air Force base, California.

Successful performance of the aircraft throughout the flight tests could lead to the development of a full-scale X-wing demonstrator aircraft by 1990.

Sikorsky claims that the X-wing is a concept that finally offers the possibility of meeting the promise of a truly convertible aircraft, with the ability to lift big loads from congested city centres and then to fly like a conventional aircraft at high speeds over considerable distances.

Although initially the X-wing, like the tilt-rotor, is being developed with military applications in mind, the longer-term use of both developments in the commercial arena is likely to attract increasing attention.

Michael Donne



Falcon 900. The widebody business jet

In 1982, Dassault and Falcon Jet commissioned an in-depth survey to determine what features were most wanted in the next generation of business jet aircraft.

It showed that the single most important comfort factor to executives was headroom in the cabin.

So you'll be delighted to hear a few facts about the widebody FALCON 900.

The FALCON 900 provides the most stand-up headroom in any other business jet cabin: 6 ft 2 in. compared to its largest and latest competitor's 6'1". The largest cabin width: 92" instead of 88" at the centerline, 73" instead of 65" at floor level. The largest USABLE cabin floor area.

For quietness, it has a structural acoustical shell, faced with Kevlar composite material for strength, and covered with a layer of acoustic foam for soundproofing.

One of the reasons of the unique comfort and utility of it widebody, full-head-height interior, is the careful study and appli cation of ergonomics to the design of the FALCON 900.

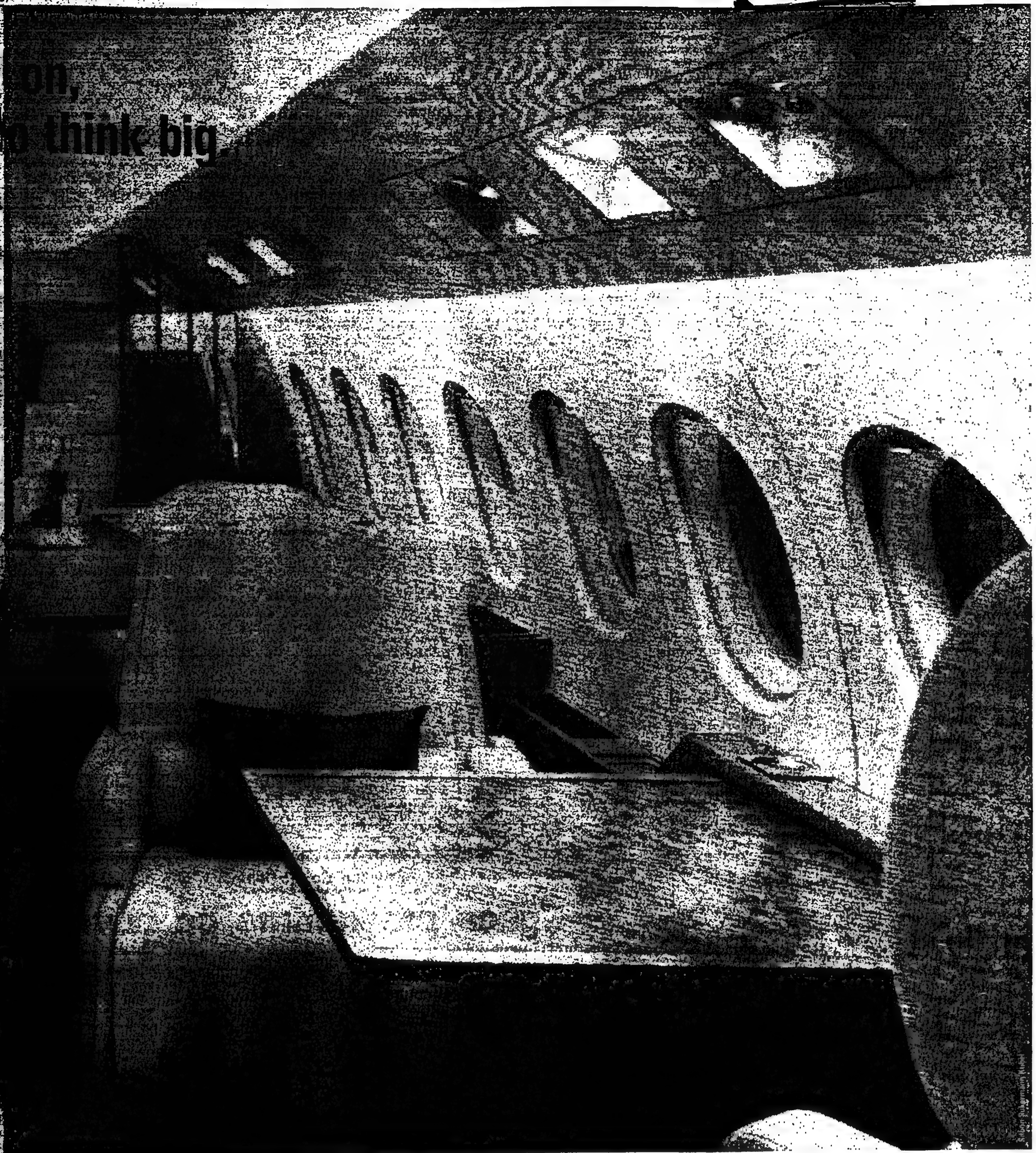
The result is optimum space, and an impressively quiet envi ronment, creating an extraordinary sensation of utmost efficiency and serene elegance.

A corporate jet must

Business takes

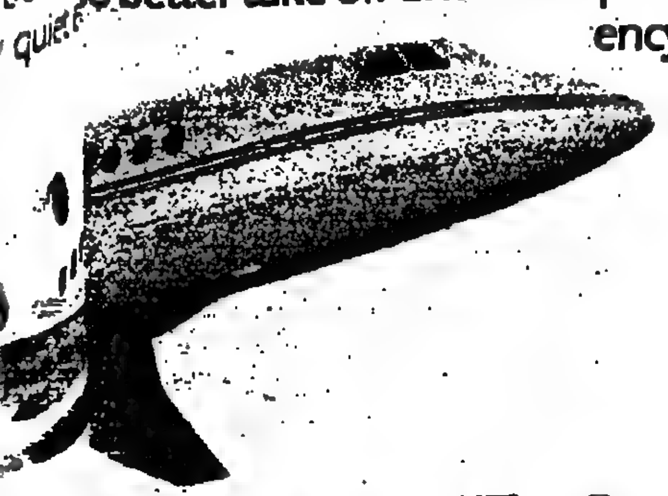
هكذا صفحة بالأصل

هكذا من الأصل



je hich makes the competitors look small.

ove all offer reliability and safety. The FALCON 900 offers the tri-e-engine safety of an airliner. It has no overwater flight restric-ns anywhere in the world, even when operated under airline ndards. Its three engines do not only give you more security, but o better take off and climb performance. Comfort. Safety. Efficiency. No matter which way you look at business jets, the widebody FALCON 900 really makes the competitors look small.



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Canada

Start-up for helicopters

CANADA's aerospace industry has digested two privatisations and the start-up of a helicopter manufacturing sector. Its technological base is broadening with greater defence activity and it is keeping its international lead in small turbines.

Canadair in Montreal is now a subsidiary of Bombardier Inc, the diversified transport products group, and is being revitalised under leadership of Donald Lowe, a former General Motors manager and the man who led Pratt & Whitney Canada back to health and sanity after a disastrous strike in the 1970s.

Canadair is now confident that it can sell a minimum of 15 top-of-the-line Challenger executive jets a year, or pass break-even, and it is working hard to develop a stretched version for commuter needs. It is improving and re-engining its long-living waterbomber aircraft—used for fighting forest fires—developing specialised defence systems in co-operation with the French and West Germans and hoping to find a market for them also in the US.

Canadair has long experience as subcontractor for airframe parts for the three major US aerospace groups, and it is determined to build this activity further, possibly with the European Airbus Consortium if its North American sales continue to prosper.

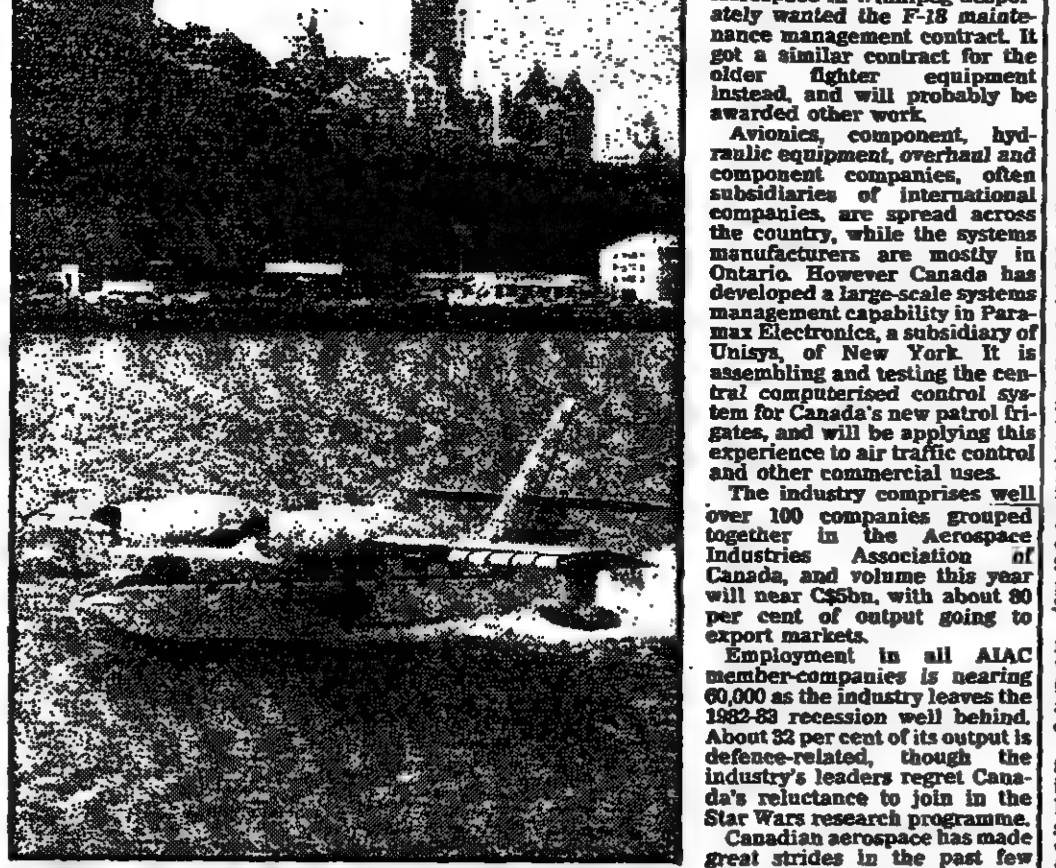
The company built more than 2,000 fighter aircraft under licence from American manufacturers for several European nations after the Second World War, and partly because of this experence was awarded a long-term maintenance management contract for the Canadian Armed Forces F-18 fighters.

Canadair is profitable once again, without the drag from the Challenger development costs absorbed three years ago by the Federal Government. Employment is running at the highest level in more than a decade, the fighter maintenance contract will bring it into complex systems technology and advanced composites, and Bombardier's ownership role has been favourably accepted now throughout the industry.

The Government of Prime Minister Brian Mulroney launched into privatisation with the sale of De Havilland Canada in Toronto to Boeing of Seattle. This deal came up against anguished cries from Canadian nationalists, particularly because a rival bid from a Canadian consortium was refused.

But Boeing has reorganised DHC from top to bottom, increased employment and won major new orders for the company's advanced turboprop commuter aircraft. The twin-engined DASH-8 is doing especially well and DHC is working on a stretched version to carry more than 50 passengers.

The controversial Bell Textron Helicopter (Canada) plant near Montreal has begun making two series of commercial light helicopters while continuing development work on the Canadian-engined twin-400 model and on the 440 which will use advanced composites on a large scale. About C$250m has been invested in the plant.



The Canadair CL-215T "water bomber" for fighting forest fires, seen scooping up water from the St. Lawrence River at Quebec.

A small helicopter plant near Toronto, owned by West German-controlled MBB Aerospace Canada, has moved into production based mainly on a C$23m Federal Government contract.

Both these plants depend partly on recovery in the oil and gas industry. But Canadair is linked with Aerospatiale of France in offering a version of the Super Puma for the C$2bn replacement programme for the Coast Guard's ageing Sea Kings, while Bell (Canada) would assemble and test the new Anglo-Canadian EH-101 if that is chosen over the Super Puma.

Pratt & Whitney Canada, the small turbine producer, has shifted production of its fanjet line to Toronto and expanded its research operation into that area. It needed more room at the Montreal plant for the highly-successful turboprop engines for general aviation and commuter aircraft.

PWC is developing a completely new engine for helicopters and searching out new niches in the market. A start has been made on a project to build turboprops in China.

PWC maintains Canada's second-largest private-sector research and development operation, in Montreal and Toronto, and for years has worked successfully with Canadian component manufacturers to develop domestic sourcing and raise the level of technology.

Based partly on a pioneering Canadian General Electric airfoils plant at Bromont, near Montreal, PWC is gradually adopting computer-integrated manufacturing for its principal engine assembly and testing operations. In Montreal especially, this will mean a complete restructuring of the manufacturing function over the next ten years. PWC has built a parts plant at Halifax, Nova Scotia, to get practical experience.

The Canadian aerospace industry is divided roughly 50-50 between Quebec and the Maritimes and Ontario, the Prairie provinces and the West. Each region of the country wants to have a share of airframe, component and specialised materials activity. Bristol Aerospace in Winnipeg desperately wanted the F-18 maintenance management contract. It got a similar contract for the older fighter equipment instead, and will probably be awarded other work.

Avionics, component, hydraulic equipment, overhaul and component companies, often subsidiaries of international companies, are spread across the country, while the systems manufacturers are mostly in Ontario. However Canada has developed a large-scale systems management capability in Paramax Electronics, a subsidiary of Unisys, of New York. It is assembling and testing the central computerised control system for Canada's new patrol frigates, and will be applying this experience to air traffic control and other commercial uses.

The industry comprises well over 100 companies grouped together in the Aerospace Industries Association of Canada, and volume this year will near C$5bn, with about 80 per cent of output going to export markets.

Employment in all AIAC member-companies is nearing 60,000 as the industry leaves the 1982-83 recession well behind. About 32 per cent of its output is defence-related, though the industry's leaders regret Canada's reluctance to join in the Star Wars research programme.

Canadian aerospace has made great strides in the past few years, but several major issues remain. The US is far and away the largest customer and products move freely over the border without tariff. However the industry is pressing the Federal Government in the current free trade negotiations to achieve a reduction in US non-tariff barriers and to get defence production sharing on a more consistent footing. Canada could also benefit from a joint institution for settling trade disputes.

The industry wants more long-term participation in international aerospace developments, whether US or European-based, a greater role in international systems development, more subcontracting to underpin volume and a stronger input into the Asia-Pacific regions growth.

In the next two years, gross sales volume is expected to rise a total 12-14 per cent and reach about C$7bn by 1990. "We're very bullish about the outlook," says Mr K. E. Lewis, AIAC's president.

Robert Gibbens

The US

Military purchases peak

THE US AEROSPACE Industry has reached a turning point. For this is the year when America's greatest peacetime defence build-up is due to pass its peak, at least as regards the military aircraft purchases which for long have been the biggest hardware component of the Pentagon budget.

From 1987 year onwards, US military aircraft sales are expected to start on a slow but steady decline from this year's record level of $39bn which has been budgeted. A gentle fall of one or two per cent a year is likely to take military aircraft sales to about $37bn by the end of the decade, while new accounting guidelines and cost control measures designed to curb the federal budget deficit will start to cut into the defence contractors' profits.

The smaller civilian end of the aircraft industry, meanwhile, is going from strength to strength as airlines around the world enjoy rapid traffic growth and the new generation of high-technology passenger aircraft moves towards full production. US commercial airframe, engine and parts manufacturers expect sales this year to exceed $11bn and to grow by further 5 per cent or so a year to around $12.5bn by 1989.

However, the fastest growth rates in the aerospace industry will be enjoyed not in the airframe and engine sectors, but among the avionics and space equipment suppliers.

This year looks like marking the first time that avionics sales including both military and civilian installations, overtake the spending on military aircraft, with spending on avionics coming to about $40bn, and after expanding at upwards of 8 per cent annually in the last three years, avionics is set to remain highly prosperous, even if sales of military aircraft begin to slow.

With defence thinking emphasising electronic warfare systems, growth in the avionics sector should continue over the next two years at about 4 per cent annually, despite weaker demand for instruments and flight displays.

The space and satellite sector is doing even better this year, registering growth of nearly 20 per cent to more than $24bn. The most important reason has been the surge of spending by the Space Defense Initiative organisation which is responsible for President Reagan's Star Wars project. The second—tragically ironic—boost to the space sector has come from the Challenger Space Shuttle disaster.

The National Aeronautics and Space Administration will be spending more than $10bn annually in the next few years to rebuild its Shuttles by mid-1988 and then press ahead with the space station programme. Meanwhile, the Defense Department's space budget, currently $15bn annually, is likely to go on rising, unless and until the next president brings about some dramatic reordering of defence priorities.

For the aerospace sector as a whole, then, the general picture is one of enormous activity and prosperity, albeit with a few pockets of gloom.

But the major civilian airframe manufacturers' good fortunes are not shared by the very much smaller companies in general aviation. With the squeeze on overheads throughout American business showing no signs of abating, and the cost of liability insurance pushing the price of private flying further out of the reach of middle-class Americans, general aviation sales this year are forecast at only $1bn. In 1986, unit deliveries fell to their lowest point since the Second World War.

But even outside the hard-hit general aviation sector, US aerospace companies are hardly in euphoric mood—an observation which applies with even greater force to their shareholders. In the year to May, the aerospace companies' share prices, as measured by the Aviation Week and space technology index, increased by only 10.2 per cent compared with a rise of 18.8 per cent in the Standard and Poors 500.

On the basis of price-earnings ratios, the aerospace sector sells at a discount of 45 per cent to the market, an astonishingly bearish figure for an industry enjoying an extraordinary rate of technological progress, a generally well regarded management, and a market impervious to foreign competition.

For the big airframe manufacturers which dominate the industry, it may prove hard to rekindle investors' enthusiasm. As Ms Judith Comeau, aerospace analyst at Goldman Sachs, noted recently:

"The aerospace industry is mature with little or no earnings growth over the next five years. Mature industry stocks often become attractive at these levels as investors begin to focus on cashflow instead of earnings.

"Unfortunately, aerospace companies are not attractive on a cashflow basis. Because of factors unique to military contractors, the aerospace industry should experience deteriorating cashflow over the next three years."

Boeing, with its dominance of the worldwide civil aircraft industry and with its enormous backlog of orders, is something of a special case. Despite the sometimes vicious competition from Airbus and McDonnell Douglas, which will be partly responsible for the downturn in earnings this year already predicted by Boeing's management, the longer-term prospects look "extraordinary," according to Mr Paul Nisbet, aerospace analyst at Prudential Bache.

While many analysts might disagree with Mr Nisbet's forecast of a near doubling of Boeing's earnings in 1988, this is the one aerospace company which figures most prominently in the stockbrokers' buy recommendations.

But for the six predominantly military prime contractors—McDonnell Douglas, Rockwell, General Dynamics, Lockheed, Grumman and Northrop—the outlook is more uncertain. Earnings prospects are unexciting because the Pentagon's buying binge is past its peak and several perennial moneyspinners such as Rockwell's B-1B bomber, Grumman's F-14 Tomcat and A-6 naval fighters and Lockheed's C5 cargo aircraft, start running out of orders.

Indeed, there have been widespread predictions that several of the military prime contractors may be forced back to subcontracting by the early 1990s, once the Pentagon makes up its mind on three massive military development competitions which are now in progress.

The Navy's advanced tactical aircraft, with an expected cost of $40bn, is being developed by a Grumman/Northrop consortium in competition against McDonnell/General Dynamics. The competition for the Air Force Advanced Tactical Fighter (ATF), valued at $45bn, is between Northrop/McDonnell against Lockheed/General Dynamics/Boeing.

The Air Force's Stealth advanced technology bomber is being developed by Northrop, with a large amount of sub-contracting led by Boeing. But the future of this project is still uncertain, since the first demonstration flights have yet to take place and Congress is showing increasing signs of horror at the price tag of $50bn to $80bn for full production.

To make the difficulties still tougher for the military contractors, the Pentagon work they do win in the future will be less lucrative than the past. Not only has the congressional cost-cutting scalpel sliced into procurement prices and profit margins, new procedures on progress payments and tax deferral have slashed into cashflow.

As a result of delays in progress payments and the introduction of completed cost accounting for tax purposes, an industry which is notorious for its huge cash appetite has been forced into the position of helping the federal government fund its budget deficit, as Ms Comeau of Goldman Sachs notes.

Anatole Kaletsky

US Aerospace Companies—1986 Results

Company	1986 sales $m	1985 sales $m	% change on year	1986 earnings $m	1985 earnings $m	% change on year	1986 total backlog $bn	1986 funded backlog $bn	1985 total backlog $bn	1985 funded backlog $bn
Boeing	16,341	13,636	+19.8	665	566	+17.5	29.1	26.4	26.7	24.7
McDonnell Douglas	12,661	11,478	+10.3	278	346	−19.7	28.4	16.5	23.9	16.6
Rockwell Intl.*	12,296	11,338	+8.5	611	595	+2.7	11.6	9.1	14.6	8.7
Lockheed	10,273	9,535	+7.7	408	401	+1.7	17.6	9.8	17.9	9.0
General Dynamics	8,892	7,952	+11.8	(53)	383	N/m	22.5	16.8	22.2	14.7
Northrop	5,608	5,057	+10.9	41	214	−80.8	N/a	4.2	N/a	4.6
Grumman	3,052	3,099	+13	79	82	−3.5	N/a	6.7	N/a	5.4

*Fiscal year ending 9/30/86.

Research Associates: [illegible]

The Soviet Union

Space programme on course

THE WORLD'S second largest aerospace industry has continued to make steady progress in the past year, with the Soviet Union perhaps achieving more in terms of avoiding setbacks rather than chalking up spectacular new successes.

Despite a couple of launch failures (reported only in the West) early this year, the Soviet space programme still runs about 100 launches annually, more than the rest of the world put together. And despite temporary problems in docking the Kvant module, the Mir space station has brought the Soviets closer to keeping a manned presence permanently in space.

Despite the fact that Mr Mikhail Gorbachev, from the tenor of his radical arms control proposals, does not seem prepared to pour large amounts of extra resources into defence, Soviet military aerospace output has continued across a broad front.

The emphasis has been put lately on volume production of sophisticated fighters rather than bombers and on development of new attack helicopters (perhaps spurred by the Afghanistan war) to complement the very full range of transport rotary wing aircraft.

Last but not least—because the biggest changes may come here—is the heavy investment in new civil aircraft, coming at a time of managerial change in Soviet civil aviation. For all its military links the civil sector has had least of those efficicies and disciplines found in the military sector, and therefore the most to gain from Mr Gorbachev's general attempts at perestroika or economic reconstruction.

The appointed reformer of the way the Soviet Union uses, if not produces, civil aircraft is Mr Alexander Volkov, the deputy air force commander-in-chief, who in early May became the first new Civil Aviation Minister and head of Aeroflot for 17 years. He faces a big task in trying to improve one of the world's worst services in terms of passenger comfort on the world's largest airline, which carried no fewer than 116m passengers last year.

The enormous size of Aeroflot is due to the lack, in many inaccessible parts of the country, of any alternative means of travel, and to the responsibility of the airline (through the Civil Aviation Ministry) for all use of aircraft in the economy. This includes such uses as crop-spraying by biplane or transport and erection of oil drills and some buildings by helicopter. Thus, domestic business vastly predominates. Here the main reform will be to make Aeroflot's various regional divisions more autonomous and, it is hoped, flexible in meeting customer demand.

But the airline is also trying to increase its relatively small international traffic. Although it makes scheduled flights to 122 destinations in 97 countries, Aeroflot carried only 6m foreign passengers in 1986.

However, a business class will be introduced this year, says Mr Viktor Shumsky, chief of Aeroflot operations in Europe and North America at the airline's Leningradski Prospekt headquarters in Moscow. And, by 1990 the airline will have started to introduce the long-haul Il-96, to replace the Il-62, and the Tu-204, replacing the Tu-154.

These quieter and more fuel-efficient aircraft (not hitherto a hallmark of Soviet engines) should have no difficulty meeting any new noise curbs at Western airports, Mr Shumsky says.

Aeroflot is the Soviet Union's strategic air transport reserve, a role that other civil airlines play for their governments—though, with its head a chief marshal of aviation, many of its pilots in the air force reserve and one of its duties being to help ferry troops to and from Eastern Europe, Aeroflot's military links are more obvious than most.

However, the Soviet Union is also upgrading its regular military transport fleet, with the expected entry into service of the (Nato code-named) Condor sometime in the next two years. This aircraft, seen last year at the Farnborough Air Show, can carry 150 tonnes and is roughly comparable to the American Galaxy C-5B.

Western interest in Soviet military aerospace was heightened by the appearance last autumn at an airshow in Finland of the MiG-29 (Nato code-named Fulcrum) which set cameras whirring, and by recent in-flight photographs by the Swedish and Norwegian air forces of the Su-27 (Flanker) and its underslung weaponry.

With these two aircraft the Soviet Union has for the first time all-weather, look-down, shoot-down fighters comparable to those possessed by the US. As for bombers, the Backfire, produced at around 30 a year, now accounts for about one third of the Soviet bomber force, according to the 1987 version of Soviet Military Power, published by the US Defence Department.

However, US officials estimate that the Blackjack long-range bomber, larger and perhaps faster than the US B-1B, may complete flight testing and enter service by next year.

Lessons of the Afghan war appear to be driving forward improvements in Soviet helicopters, many of which now carry infra red hammers, suppressors, decoy dispensers and more armour to resist attack.

The impact of Soviet nuclear missile modernisation is impossible to gauge until the fall-out from Mr Gorbachev's dramatic arms control proposals, particularly for elimination from Europe of all missiles between 500 and 5,500 kilometres range, becomes clearer. But even if there is a US-Soviet deal on these systems, the Soviet authorities are reported by the US to be busily modernising both ends—intercontinental and short-range—of their nuclear arsenal.

In terms of strategic military programmes, both Superpowers have made the most fuss about each other's research and development of missile defence. While Moscow has charged that President Reagan's Strategic Defence Initiative (SDI) infringes the Anti-ballistic Missile Treaty, Washington has countered that Soviet ground-based missile defence, particularly the nature of its new Krasnoyarsk radar, also violates the ABM pact.

Certainly—without the publicity surrounding the US Star Wars programme—the Soviets for a number of years have been pursuing research into key technologies, such as lasers, particle beam and kinetic energy weapons, of potential use in anti-missile defence. Some evidence for this comes from internal KGB documents acquired by the West in the early 1980s which talk of acquiring Western technology for research into "anti-missile defence for our country" (not just Moscow, as permitted by the 1972 ABM treaty).

In a recent interview at the Space Research Institute in Moscow, Prof. Roald Sagdeyev admitted there was "a military application" to much of his space research, but he insisted it was "benign" in terms of improving early warning and verification satellites required for monitoring arms control accords.

The US Defence Department tends to see military applications in virtually everything the Soviets do in space. Extra-terrestrial astronomy is seen as potentially useful in maintaining accurate orientation of space weaponry; spacecraft docking as potentially useful in repairing friendly satellites and disabling enemy ones; and earth observation is seen as already useful in reconnaissance and targeting.

While there may be something in the Pentagon suspicions, the Soviet space programme has much wider aims than this.

The three general aims of Soviet space research, says Prof. Sagdeyev, are astronomy (recording X-ray radiation from the heavens and so helping understanding of the origins of the universe), exploration of the solar system and near space, and observation of the Earth.

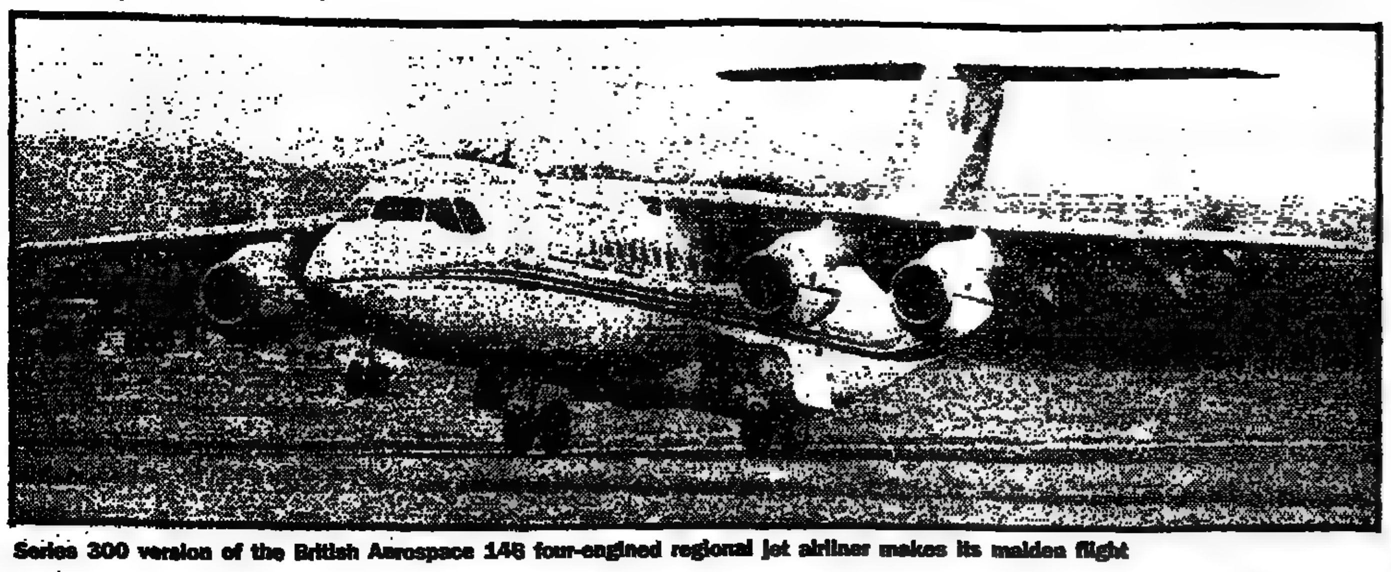
Cosmonauts on the Mir space station in orbit since February 1986 have been conducting a number of experiments to these ends, particularly with the arrival in April this year of the Kvant module carrying a lot of astronomy instruments from various institutes and universities in Western Europe.

In fact, scientific co-operation with Western Europe has proceeded much faster than commercial co-operation. Following the US Challenger disaster and problems with European space launches, the Soviets invited foreign governments to put their satellites into space on top of Soviet rocket boosters. The only country to take up the offer so far is India.

But for all the recent Soviet successes and US setbacks in space, Prof. Sagdeyev cautions against a view that his country has a clear lead over the US. Each country has its different strengths—the US is seen in Moscow as being good at astronomy; ingenious at solar system exploration (with the Viking and Voyager missions); level in industrial applications (crystallography); and behind only in biomedical studies where the vast Soviet lead in the number of hours its cosmonauts have spent in space puts the Soviet Union ahead in research into weightlessness and so on.

Some Soviet officials feel that NASA has been deliberately playing up a Soviet lead in order to attract more US funding.

David Buchan



Series 300 version of the British Aerospace 146 four-engined regional jet airliner makes its maiden flight

The UK

Exports trade balance doubles

THE UK aerospace industry retains its position as the second largest in the Western world, after the US, and during 1986 the industry's overall turnover is estimated to have amounted to at least £8bn, of which no less than 60 per cent was exported.

According to the Society of British Aerospace Companies, the UK industry's exports during 1986 amounted to more than £4.74bn. Imports, especially of new commercial jet airliners from the US, amounted to £2.8bn, so that the positive contribution by the industry to the UK's overseas trade balance was close to £2bn, nearly double the figure for 1985. The previous best trade balance for the industry was that of £1.1bn, recorded in 1982.

At the end of 1986, the UK industry's forward order book stood at well in excess of £20bn and is still rising as the industry's salesmen travel the world in search of new business.

Contributing strongly to the industry's overall performance was the privatised British Aerospace, which achieved sales in 1986 of over £3.13bn, up 18 per cent over the previous year's figure of £2.65bn, of which exports accounted for no less than 66 per cent. BAe's trading profit for 1986 amounted to over £217m, with pre-tax profits amounting to more than £182m, up 21 per cent over 1985.

Another major contributor was the newly-privatised Rolls-Royce, with operating profits in 1986 of £273m, an increase of 29 per cent over 1985, and pre-tax profits of £120m. The company's turnover in 1986 rose £201m to reach a record £1.8bn, an increase of 12.5 per cent. Overseas business accounted for 71 per cent of total sales. At the end of 1986, the company's backlog of orders stood at £3.1bn.

In order to achieve these results, the UK industry continues to spend a substantial proportion of its cash on research and development, especially in areas of high technology, so as to remain ahead of the increasing competition, and especially that from the US.

Total research and development spending is difficult to quantify because much of it is covered by defence budgets on classified projects.

But British Aerospace alone spends over £82m a year of its own funds on R & D while Rolls-Royce says that its gross outlay was some £255m in 1986, an increase of 9 per cent over 1985, and a reflection of the continuing high level of activity on both civil and military engine projects, supplemented by work on advanced engineering programmes.

The net Rolls-Royce research and development charge at £132m represented 7 per cent of turnover, compared with 6 per cent in 1985. The net figure is what Rolls-Royce spends on its own account, after taking into account the cash coming from the Government under defence contracts and shared advanced engineering programmes, and launch aid from the Government for specific civil engine ventures.

Probably the most signicant development in the UK industry in recent months has been the privatisation of Rolls-Royce, after 16 years of government control following the original bankruptcy in early 1971.

Rolls-Royce itself has welcomed its return to the private sector, following the privatisation of British Aerospace itself, on the grounds that it will now be free to follow its own business dictates.

The return of Rolls-Royce to the private sector thus leaves only one aerospace company in Government hands—Short Brothers of Belfast, which has been either totally (or at times partially) owned by the State since 1943, when it was taken over by the then war-time Government.

Short Brothers has been continuing its studies into future developments in the world airline commuter aircraft market in conjunction with de Havilland Aircraft Company of Canada.

A statement by Shorts earlier this spring said that both companies are now in agreement on the basic parameters for a new commuter-type aircraft, aimed at the low end of the passenger range for an aircraft that would have a wide fuselage cross-section for optimum passenger comfort.

The joint Shorts-DHC project team have begun their market analyses, and provided these studies confirm overall demand and project viability, a decision to launch a new joint programme could be taken later this year.

In the meantime, other companies in the UK industry are now either engaged on, or awaiting government go-ahead for, a number of major programmes that will do much to ensure a high workload and continued profitability for the rest of this century.

In military aviation, British Aerospace and Rolls-Royce are awaiting the full production development go-ahead for the International European Fighter Aircraft (EFA), being undertaken with West German, Italian and Spanish partners, together with the EJ-200 engine that will power it.

This approval is expected some time during the late summer of this year, and eventually this programme is expected to yield over 800 aircraft for the air forces of the four partners alone, which together with exports seems likely to run to well over 1,000 aircraft by the end of this century.

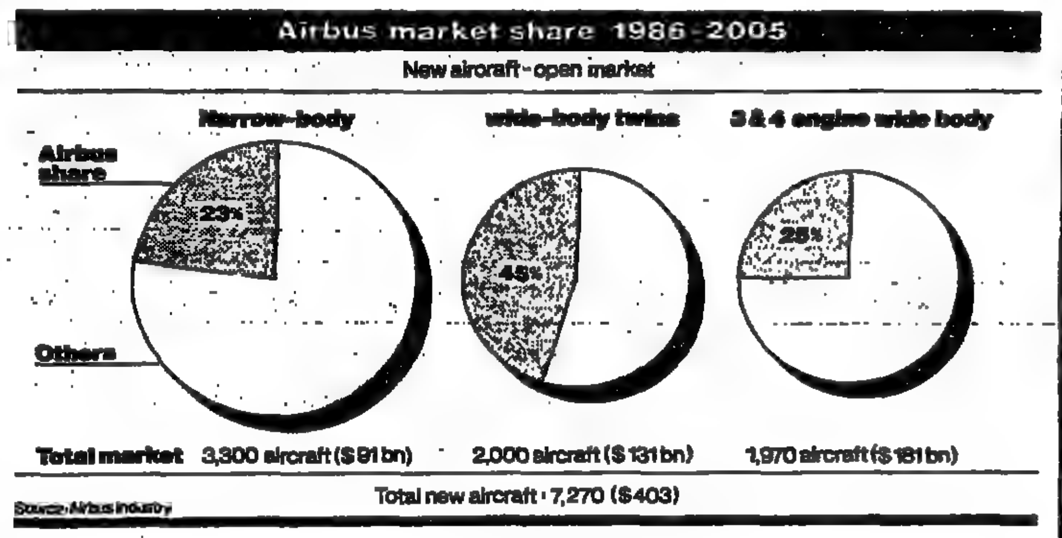
In civil aircraft, British Aerospace is steadily expanding the order base of its four-engined regional Type 146 jet airliner (with the stretched Series 300 aircraft making its maiden flight a few weeks ago), and its Jetstream 31 twin-turbo-propeller airliner and Type 125 business jet.

Orders for the new Advanced Turbo-prop (ATP) have been slow, but are expected to be substantial eventually once the aircraft has entered service and proved its value as a quiet and economical short-haul airliner.

Also in the civil field, British Aerospace has now been granted £450m launch aid by the UK Government. To enable it to participate in the next generation of European Airbuses, the short-to-medium haul A-330 and the four-engined long-range A-340.

A formal go-ahead for both aircraft is now expected at the Paris Air Show, and there new ventures will ensure a continued high presence by BAe in European civil aviation ventures for many years to come.

Michael Donne



West Germany

Firmer government policy

THE WEST German aerospace industry is at last girding up its loins to do battle on a more equal basis with the technological goliaths in the other main industrialised countries.

Boosted by a more self-confident and forceful government policy on aerospace, the West German industry, although continuing to complain about lack of funds and ever-tougher international competition, is now in a better state to carve out its own place in the industrial sky.

Exactly what that place will look like—and how profitable (if at all) it will turn out—is, for the moment, immaterial. The main point is clear—the Bonn government has made a strategic decision in favour of bolstering the industry.

This includes developing a much more amibitious space programme, where the Resarch and Technology Ministry has not only greatly increased its budgetary outlays but is also taking a more confident and assertive stance over the role of West German companies' international projects.

The West Germans have no illusions that they can carry out big projects on their own. But even when international collaboration is the name of the game, a dynamic and well-funded domestic industry is essential to give the country access to the higher-technology work in aerospace which has often in the past gone the way of other partners like France.

In space, for instance, the new policy favoured by Mr Heinz Risenhuber, the Technology Minister, could open the way for West Germany to send astronauts into space at the beginning of the 1990s not only with the US but also with the Soviet Union—adding a new dimension to the federal republic's present international cooperation.

Problems centre around the financial and management structure of Messerschmitt Boelkow Blohm, the country's main aerospace company, which is manifestly under-capitalised to carry out the increasing range of tasks in air and space it is starting to shoulder.

Additionally, a range of management problems has yet to be overcome at Daimler-Benz. The motor group has now become West Germany's leader in the defence technology area, grouping AEG-Telefunken, Dornier and the aeroengine group MTU.

Although the financial power of Daimler has already brought a fillip to investment at Dornier, absorption of these new business areas has not gone ahead as smoothly as the top management at Stuttgart would have liked.

Despite these difficulties, the main path for the industry over the next decade has now been set down with a series of landmark decisions in important areas.

The government has always given clear political support to the next generation of the Airbus family, the A330 and A340. It has taken time to put together the details over finance to help meet the DM 3bn the German partner in the project, Deutsche Airbus (owned by MBB) says it needs to carry the venture forward. Critically, the goverment has been trying to restructure Deutsche Airbus by encouraging new industrial shareholders to join MBB—a course which has proved a thorny one.

But especially after the British and French decisions to back the extension of the range during the weeks before the Paris Air Show, German backing was not in doubt.

In another key area—also proving to be much more costly than anticipated—France and West Germany are expected formally in July to give the go-ahead for the planned anti-tank military helicopter which has been stalled for three years since formally decided by Chancellor Kohl and President Mitterrand in May 1984.

This follows compromise agreement between the two countries' military authorities and their industry on simplifying the number of versions and also on increasing (to the detriment of the Americans) the amount of high-technology equipment carried on the aircraft by French and German companies.

The helicopter will now cost DM 9bn to develop and build for the German side alone, including the cost of an "interim solution" to take account of the fact that it will not now be ready to enter service until 1997 at the earliest, several years behind schedule.

But the government believes the extra cost is worth it, both to boost its industry's technological capacity—and also to give a general boost to Franco-German political co-operation.

Speaking with surprising unanimity, both Bonn and Paris say the project is necessary to stop the European helicopter industry becoming eventually mere subcontractors to the Americans.

The Defence Ministry and MBB are also gearing up to flesh out the West German role in the European Fighter Aircraft going ahead in the 1990s with the partnership of Britain, Italy and Spain.

And in space, where the country has already agreed to participate in the European Space Aggency's Ariane 5 and Columbus projects (in the latter, the Germans have the biggest share), a final decision is due in the autumn on a full go-ahead for the French-led Hermes space shuttle.

Further down the road, West Germany is looking to its Saenger rocket-plane concept as the next, and possibly greatly more economical, step into space travel.

David Marsh

France

Facing mixed prospects

A SHARP FALL in orders last year has cast a cloud over the prospects for France's aerospace industry, but the horizon is not without its bright spots.

French aerospace manufacturers booked a total of FFr 37bn of orders in 1986, compared with FFr 61.6bn the previous year, and its outstanding order book fell by the end of the year to FFr 110bn, a drop of 10 per cent over the year, according to Mr Jacques Benichou, who has just retired as chairman of the country's leading aircraft engine producer, Snecma. He remains president of Groupement des Industries Francaises Aeronautiques et Spatiales (Gifas), the national aerospace manufacturers' association.

But in some sectors, such as the civil aviation field, the picture looks more encouraging.

For Airbus Industrie, the European consortium in which France's state-owned Aerospatiale group is leading partner along with Messerschmitt Bolkow Blohm of West Germany, British Aerospace and other manufacturers, the past 12 months have brought further pre-launch orders for the A-320, the new short-haul airliner which made its maiden flight earlier this year, and considerable progress for the next models in the Airbus range, the long-range A-340 and its medium-range twin the A-330.

In total, the consortium clocked up 170 orders in 1986, nearly twice as many as in the previous years. Most of the orders were for the new A-320, but with 24 orders for the existing A-300 and A-310 models, Airbus claims to have maintained a two-thirds share of the twin-aisle twin-engine market.

The launch of the new A-340 programme, however, has not yet been fully agreed.

France's Prime Minister, Mr Jacques Chirac, has stood shoulder to shoulder with his British and West German counterparts in rejecting the assault of the US, which claimed that government funding for the Airbus consortium put its own manufacturers, especially McDonnell Douglas, whose MD-11 is a direct rival to the A-340, at an unfair disadvantage.

But although Mr Chirac appears to be behind the A-340 in spirit, his government has not yet committed itself firmly to funding its share of the programme.

French government officials were sceptical about the prospects of completing the superfan engine proposed by the IAE consortium in time to power the A-340. Now that IAE has withdrawn from the lists, leaving the field to a variant of the CFM56 engine produced by the state-owned manufacturer Snecma and General Electric of the US, the chances of government approval have been enhanced.

If French aerospace companies have seized the need for international co-operation in the civil airliner sector, co-operation has not always been so easy in the military aircraft field.

Unable to agree with West Germany and the UK on the framework for a new European fighter aircraft, France has now launched its own domestic consortium to develop a fighter based on the Rafale prototype produced by Avions Marcel Dassault-Breguet Aviation.

The Avion de Combat European Consortium (ACE) will compete with the European fighter aircraft to be produced by West Germany, the UK and Italy.

The ACE grouping includes, besides Dassault and its electronics subsidiary Electronique Serge Dassault, Thomson CSF for the electronics and Snecma for the engines. Managed by a Dassault man, Mr Bruno Revellin Falcoz, it will be chaired by Gen. Bernard Capillon, new chairman of Snecma, and will also seek foreign partners.

An olive branch has also been extended to the Eurofighter consortium, raising the possibility of collaboration over some of the electronic equipment which will be common to the two aircraft.

The ACE now planned will be an aircraft weighing 8.6 tonnes empty. Powered by two Snecma M-88 engines and offering low visibility to radar, if not the full "stealth" potential originally planned.

However the green light from the Government for this fighter project will do nothing for Dassault's immediate problems, indicated by a 36 per cent drop in its net profits last year.

New orders more than halved last year, with the decline of the dollar worsening Dassault's competitive position against US rivals such as McDonnell Douglas and lower oil prices damaging the group's traditional markets in the Middle East. The year following the death of the company's founder, Mr Marcel Dassault, ended with job cuts for the first time in Dassault's history.

In another area, French co-operation with its European partners has made greater progress, although some doubts remain.

Mr Andre Giraud, France's Defence Minister, announced in March that he had agreed with his West German counterpart, Mr Manfred Woerner, on the launch of a programme to build a Franco-German anti-tank helicopter.

The helicopter is something of a compromise. The French have accepted that it should be a bi-motor design, with the pilot and gunner sitting in tandem, while the Germans had to agree to a European aiming system mounted above the rotors, rather than an already developed American nose-mounted system.

Even this agreement—after three years of stalled talks—has not assured the helicopter's future. Mr Giraud still wants Aerospatiale and West Germany's MBB to come up with substantial cost savings before he gives the final go-ahead. If the cost of the joint helicopter exceeds the cost of France building a helicopter alone, the project would have to be abandoned, he has warned.

Aerospatiale's helicopter division, however, scored a number of successes last year. Total orders climbed from FFr 5.4bn to FFr 6.7bn, with 43 orders for the super Puma twin-engined helicopter. This helped to compensate for falling orders in the aircraft division, but the company's total orders fell to FFr 28.6bn from an exceptionally good FFr 34.8bn in 1985.

George Graham

Sweden

Fighter set for flight trials

APRIL 26 was roll-out day in Linköping, home to Saab-Scania and Sweden's aerospace industry. That was the first public view of the JAS 39 Gripen, Sweden's new lightweight multi-role combat aircraft.

The fighter-ground attack-reconnaissance aircraft has been developed for the Swedish armed forces by the Jas industrial group, a consortium consisting of Saab-Scania, Volvo-Flygmotor, Ericsson Radio Systems, and the government-owned FFV Aerotech.

The first prototype is due to start trial flights before the end of this year and a further four test aircraft are under production. First deliveries to the Swedish Air Force are planned to start in 1992.

So far, the Swedish Air Force has ordered 30 Jas 39 aircraft, and has an option on a further 110 for delivery before the year 2000. The whole programme will cost SKr 41bn.

No orders from abroad have been forthcoming but both Switzerland and Denmark have expressed interest in the aircraft, and suggested they might buy 30 to 50 each. The Jas 39 can be tailor-made to a certain extent to suit customers' requirements, depending on the weapons and technology required. At the moment, it is seen as competing with the US F-16 and F-18 aircraft, as well as with the Israeli Lavi, French Rafale and EFA project—though the last two are scheduled to start operating after Jas 39.

Though the Jas 39 is lighter than its Swedish predecessor, the Draken, it is still fractionally overweight and work is under way to reduce the weight further.

From the start, the pressure was on to develop an aircaft with a low life cycle cost (ie, economical to buy and operate), and to move away from the trend in producing bigger and more expensive military aircraft. The Swedish Air Force wanted an aircraft that was lightweight, reliable, had low fuel consumption, and could be serviced by conscripts.

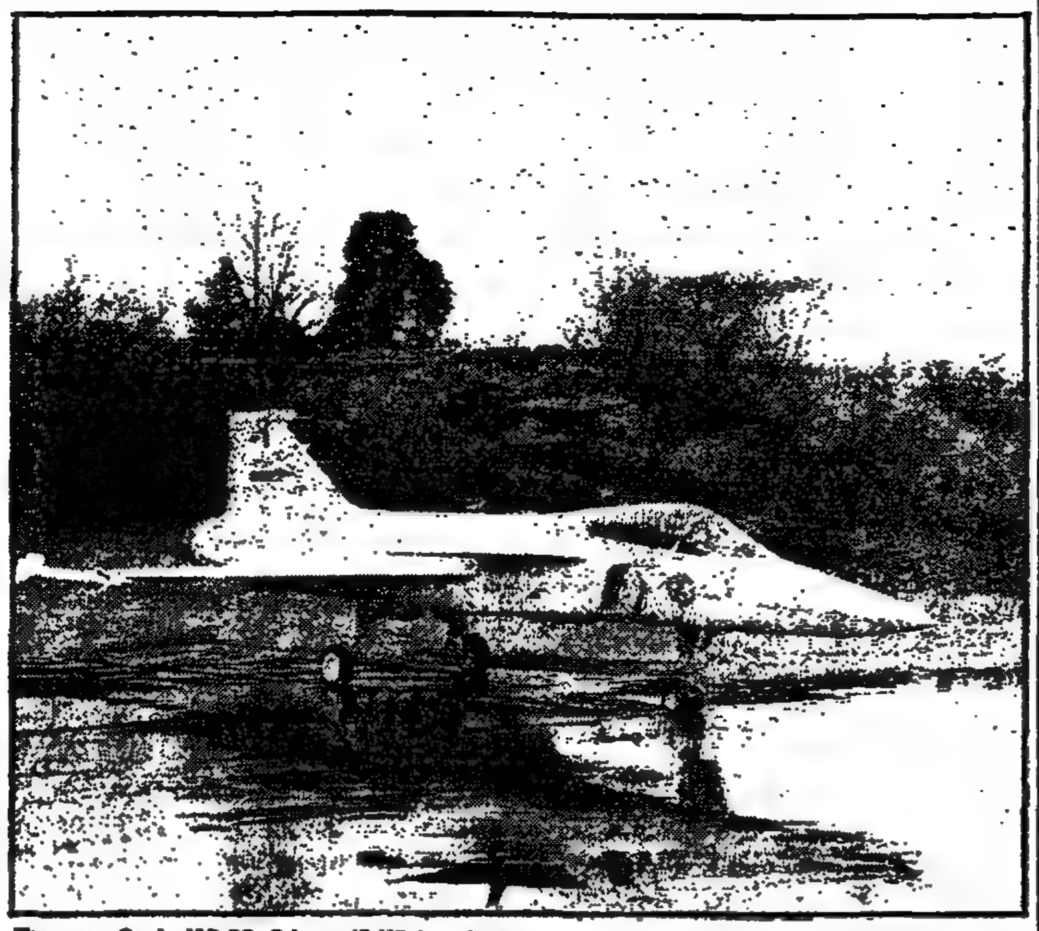
The Jas 39 take-off weight should eventually be reduced to about 8 tonnes, and to save weight, 30 per cent of the structure—including the wings (which were manufactured by British Aerospace for the prototype but which will be manufactured by Saab thereafter), canard and fin are made of carbon fibre composites.

The lower-weight engine (called the RM 12) is a modification of the General Electric F404 engine. Volvo Flygmotor collaborated with General Electric on this to give higher thrust and more effective ability to withstand collisions with birds.

Jas 39 had to be multi-role so that built-in equipment need not have to be changed between missions, offering considerable flexibility.

It has a canard-delta configuration which is considered the best for combining supersonic performance and good low-speed characteristics at take-off and landing.

Jas has an advanced multi-mode pulse doppler radar which enables each individual aircraft to carry out all types of missions with special emphasis placed on counter-counter measure performance.



The new Saab JAS-39 Gripen (Griffin), rolled out in April, is a multi-role fighter, attack and reconnaissance aircraft. It is intended to replace the earlier JA-37 Viggen (Thunderbolt) in squadron service in the early 1990s.

Saab's other military project is the production of the attack Viggen, which will be completed in 1989. The Jas 39 is destined to replace both the Draken and the Viggen in the 1990s.

In June, Saab will deliver the first of the refurbished Drakens to the Austrian defence forces. In 1985, Saab agreed to buy 24 Drakens from the Swedish air force and refurbish and modify these for Austria at a cost of SKr 1bn.

For Saab-Scania as a whole, 1986 was a record profit year marred in one respect: the aircraft division showed a loss before tax of SKr 33m compared with a pre-tax profit of SKr 106m in 1985.

Turnover was static last year at SKr 3.276bn and pre-tax return on total assets was 0.9 per cent, compared with 4.7 per cent in 1985.

The aircraft division is now equally divided between military and civilian production, having been predominantly military in emphasis during the 1970s

A number of Saab's 30-40 seater SF 340 airliner were delivered for leasing, the company says, which means that the profits for these were not accounted for last year. The SF 340, which according to Saab has captured 30 per cent of market share in its particular class, competes with the de Havilland Dash-8 of Canada and Embraer's Brasilia 120 (of Brazil).

The SF 340 was jointly developed by Saab and Fairchild Industries of the US but Fairchild opted out of the project in November 1985 (paying $32m to Saab), and Saab has since had to transfer production of the wing and tail sections to Sweden from the US.

As a result, Saab has incurred extraordinary costs and the additional burden of carrying all the marketing and servicing costs, which are therefore much higher than in the previous year.

Saab has sold over 100 SF 340 aircraft altogether, and aims to achieve a profitable programme by 1990. A further nine SF 340 aircraft have been delivered so far this year, and customers include Air Midwest and Brockway in the US, Salair of Sweden, Britair and Air Limousine of France, Crossair of Switzerland, and Comair of Canada.

Deliveries are expected to decline in 1987 to between 30-3 aircraft compared with 37 in 1985. However, it is not clear when the Saab aircraft division as a whole will return as a profit.

Sara Webb

The Saab 340 twin-turbo propeller commuter and regional airliner is finding widespread use among world airlines.

Netherlands

Dollar's nosedive hits export earnings

THE NOSEDIVE in the dollar has created turbulent weather for Fokker, the Dutch aerospace group. The weaker US currency has given American companies a sharp competitive edge at the very time that Fokker is having to spend heavily to get its two new aircraft off the ground.

The new Fokker 50 and twin-jet Fokker 100, 50 and 100-seat airliners, probably will not start making money for at least seven years and the veteran F-27 and F-28 airliners have both been buried after long and profitable lives.

Sales prices in the industry are dropping, undercut by the Americans, and the revenue that does land at Fokker shrinks when translated from dollars (in which most aircraft are priced) into Dutch guilders. Costs, meanwhile, are incurred in the strong guilder.

"We have it damned difficult right now," Mr Frans Swarttouw, chairman, conceded at the presentation of the 1986 annual report. Earnings plunged by 42 per cent to Fl 19m last year from FL 33m in 1985 and for this year the company is saying only that it expects to remain in the black.

The rough ride that Fokker, the country's only aerospace company, is experiencing at the moment is a sharp turnround from as recently as a year and a half ago when it was flying high on a healthy order book and a promising outlook. The short-range Fokker 50 prop-jet, successor to the F-27, and the medium-range Fokker 100 fan-jet, successor to the F-28, were quickly chalking up orders after being unveiled in the autumn of 1983.

Deregulation of the airline industry and rapid growth in regional carriers seemed to offer a flourishing market and the new aircraft were touted as low-priced because of the cheaper design costs involved in producing modernised versions of existing aircraft. Both offer modern electronics, high fuel efficiency and low noise levels—features designed to appeal to airlines in search of cost savings and environmental friendliness.

But since then things have change dramatically. The dollar's plunge has armed the American giants Boeing and McDonnell Douglas with the weapons to cut prices since their costs as well as revenue are in the cheap dollar. The drop in oil prices has slashed fuel costs so airlines are keeping older, less efficient aircraft longer.

Amsterdam-based Fokker concedes that orders are hard to come by these days. Last year only one 50-seat Fokker 50 was sold and another four so far this year, bringing the total order book to 43 plus 14 options from seven customers in seven countries.

Only one order for the 100-seat Fokker 100 has been won this year although last year the biggest contract ever was won for 40 Fokker 100s and options for 60 more, valued at $2bn. The order came from an international aircraft leasing consortium in which Fokker itself has taken a 25 per cent stake. Called GPA Fokker 100, the consortium also includes Guinness Peat Aviation of Ireland and Mitsubishi of Japan.

Some 87 firm orders plus 91 options are in hand for the Fokker 100 while the company's overall order portfolio amounts to a record Fl 6bn.

But start-up costs for the Fokker 50 and Fokker 100 have risen more rapidly than anticipated due to production delays and labour problems. Retooling the assembly lines from the old F-27 and F-28 to the new Fokker 50 and Fokker 100 has taken longer than planned and securing labour union agreement to the more flexible work shifts which are needed has proven difficult.

The first Fokker 50 will be delivered to Ansett Airlines of Australia at the end of this month and the first Fokker 100 to Swissair at the end of November, both a half year late. Financial compensation to Swissair has been agreed but now Fokker is trying desperately to speed up production to avoid further delays.

The Dutch company is aiming for an output of 48 Fokker 100s a year compared with only half or two-thirds of that number at the moment. Even at the target production pace it will take at least seven years to break even on the new aircraft since about 200 of each must be sold to recoup development costs.

With its Fokker 100 the company hopes to capture about 30 per cent of the worldwide market for 100-seater aircraft, estimated at 1,100 to 1,200 between now and 1995. It would like even more of the 50-seater market.

Fokker, which was established in the early 1900s by Anthony Fokker, has turned to the Dutch Government for help in getting through the bad patch. Last year it got permission to repay Fl 1.2bn in government loans and guarantees, used for developing the new aircraft, over a longer period of time.

But state aid to the company has recently drawn sharp criticism from the General Accounting Office, the government's financial watchdog. The agency expressed doubts about whether Fokker ever would repay more than Fl 300m in old state aid to finance the F-28, MDF-100 (the ill-fated aircraft with McDonnell Douglas) and Airbus Industrie components. The government credits could end up being straight subsidies, the agency warned.

But Mr Swarttouw, the dynamic chairman of Fokker, vociferously defended his company's use of public funds and argued that the Dutch company is given less government money than most aerospace concerns in the world. Fokker ought to get more help in trade financing now that the strong guilder is hurting exports, he said.

Until its new aircraft start making money, however, Fokker is looking for more profits in related activities such as maintenance services, military contracts and subcontracting for Airbus. Earlier this year a new subsidiary, Fokker Aircraft Services, was set up to strengthen maintenance services although the company admits that the field is crowded with competitors.

Fokker emphasises that it has no intention of going into the design of military aircraft but is keenly interested in making and installing more components. Talks are currently under way with Raytheon of the US about an additional contract to make electrical circuits for the PATRIO air-defence missile system, which the Dutch Government is considering buying.

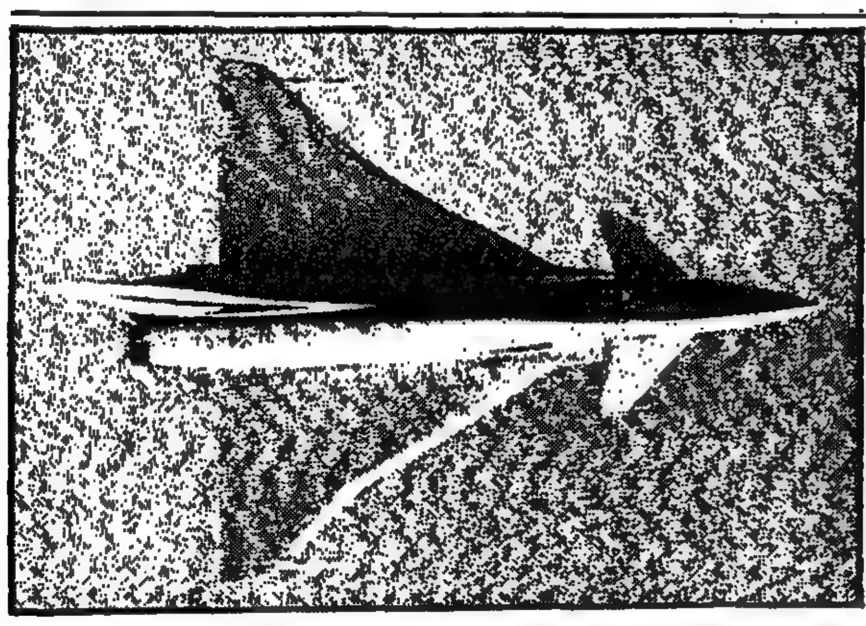
The Dutch company also is involved in the NH-90 helicopter for Nato in the 1990s. Which parts Fokker would make is still to be decided in the studies.

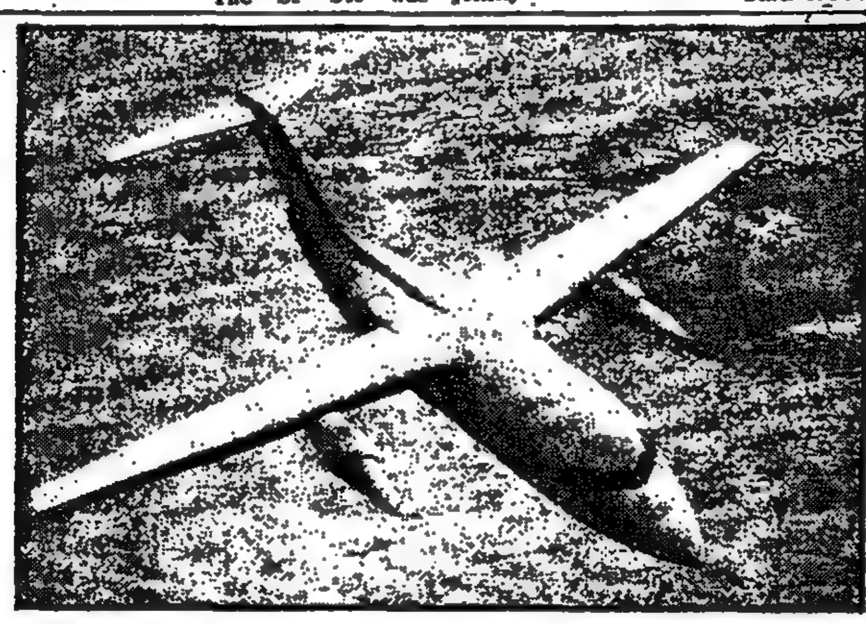
One of the most promising projects could be a 3 to 5 per cent stake in Airbus Industrie's new medium and long-range A330 and A340 aircraft. Negotiations are going on and it appears that Fokker probably would make components for the wings and landing gear, as it did for the original A-300 and A-310. Fokker skipped the A320 and views the newest version of the Airbus as an attractive way to tide it over for now.

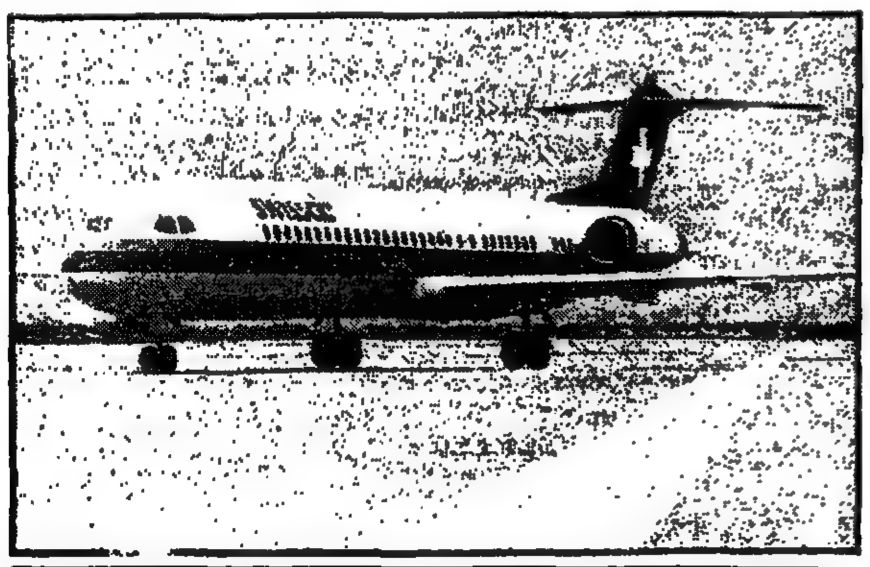
One potential political problem is Fokker's announcement that it would need more government aid, reportedly "several hundred millions" of guilders, to take on the new Airbus work. In many countries around the world aerospace is viewed as a strategic industry worth limitless state aid but in the Netherlands national pride in selected industries is far less tangible.

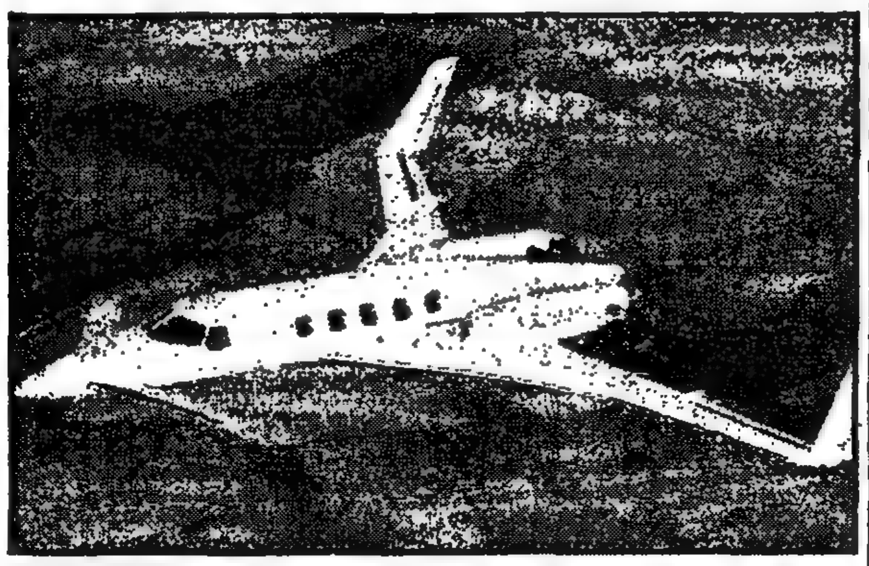
Finally, Fokker also is looking at a possible medium-range aircraft called the Atra 90 with Boeing, MBB of West Germany and IPTN of Indonesia.

Laura Raun









Top left: The French Dassault Rafale advanced technology combat aircraft is the major rival in Western Europe to the European Fighter Aircraft (EFA) now under development by the UK, West Germany, Italy and Spain.

Top right: Vision of the future. The British Aerospace 146 is currently a four-engined aircraft, but it could be refitted with two "prop-fan" type engines, and would look like this.

Bottom left: The new, Dutch-built Fokker 100 twin-engined jet airliner is substantially international in concept, with wings by Short Brothers of Belfast and Rolls-Royce Tay jet engines.

Bottom right: Beech Aircraft of the US is now building its new Starship business aircraft, of which the third prototype is seen above. First deliveries to customers begin later this year.

Italy

Many linked projects

AS IN SO many other sectors of advanced technology such as telecommunications or semi-conductor manufacturing, Italian aerospace has had to look abroad for collaborations which will deliver technological know-how, markets and "niche" activities.

The list of projects linking Italian companies with foreign aerospace counterparts is a huge one, embracing fixed-wing aircraft, helicopters, aircraft radar and guidance systems and space satellites. The end result, as Mr Renato Bonifacio, president of the country's largest publicly-owned aerospace company, Aeritalia, observed a few months ago, is that the Italian industry is involved in a very wide range of defence products.

Thus Aermacchi manufactures training aircraft; a light combat tactical support aircraft called the AMX is offered by a joint venture involving Aeritalia (48 per cent) Aermacchi (22 per cent) and Embraer of Brazil (30 per cent); Italian participation in the Tornado and European Fighter Aircraft (EFA) provides a combat and interdiction design, Aeritalia produces a military transport, the G222; Agusta is involved in a number of military and civilian helicopter projects of which the most important are the EH 101 with Westland of the UK and an international development project involving Britain, Italy, the Netherlands and Spain based on Agusta's own A129 light anti-tank helicopter.

This is a fairly impressive range of activities for an industry which has only recently begun to benefit from a volume of national defence procurement remotely comparable to that of other European countries. According to Mr Michele Nones, an expert on Italian aerospace, the industry has absorbed L7,000bn (£3.5bn) in the last five years, equivalent to 43 per cent of the Italian military equipment budget.

But, as a whole, the aerospace industry is of modest proportions and capacities compared to France, Britain and West Germany. In 1984 (the time-lag with Italian statistics is always greater than elsewhere). Italy accounted for only 8.6 per cent of the aerospace turnover in the European community, compared to 17.5 per cent for Germany, 34.6 per cent for the UK and 36.4 per cent for France.

In contrast, it has continued to provide growing employment, even when key companies such as Agusta have been struggling for profitability. Total payrolls have gone from 42,400 in 1983 to nearly 43,500 in 1985, with about one-third of the employees working in the south.

The balance of the workforce reflects the rising technological component in the industry's output. Between 1981 and 1985, blue collar employment fell by 7 per cent while the numbers of researchers and managers rose by 17 per cent.

Nonetheless, the research and development effort still seems to be lagging behind European averages which are themselves behind the US. According to figures quoted recently by Mr Raffaello Teti, president of the Agusta group, the US spends a little less than 3 per cent of its gross domestic product on aerospace R and D which should total $63bn this year. In the other European community aerospace countries, R and D averages around 2 per cent of GDP while in Italy, it barely exceeds 1 per cent, equal to about £8,000bn.

This relative undercommitment to R and D is causing some concern within the industry itself. The competitive need continually to update the technology employed in products whose production runs must last many years to recover costs clearly puts a premium on R and D. Mr Bonifacio at Aeritalia sees Italy's disadvantage in terms of advancing basic research and applying new technologies through prototypes.

"If, as I believe, this is a realistic view, the risk of being relegated to a secondary role is evident, current levels of technology, though significant, are no absolute guarantee of being able to maintain present achievements in the future," he said in a lecture late last year.

Industrialists appear to feel that the Italian Government needs to give a higher priority to the needs of aerospace, looking enviously all the time at the example of France. Nevertheless, it is conceded that improvements in the Ministry of Defence's planning of future requirements and in its involvement of the industry in this planning is leading to an improvement.

The Ministry now envisages the purchase of 700 helicopters and 900 fixed-wing aircraft by the year 2000 as part of a modernisation and development programme for the Air Force. Virtually all of the new equipment is the product of Italian collaboration with other companies, mostly European, and represents in a real sense a pattern of transnational purchasing and manufacturing collaboration which is held to be necessary for Western Europe as a whole.

Nevertheless, the arguments in favour of reorganising the structure of the Italian industry continue to rage. The problem arises from the fact that Agusta is owned by Efim, the smaller of the broadly-based state holding companies, and Aeritalia by IRI, the very much larger state holding company.

The disadvantages of this arrangement were identified in a parliamentary committee report which was finally adopted not long before parliament was dissolved for the June general election. The report said that there was a limit to the amount of public money available to finance new aerospace projects and it was unfortunate that this should be divided between competitive operators.

It identified as the most important area of overlap the production of fixed-wing aircraft by Siai-Marchetti, the Agusta subsidiary.

Keeping the two companies under separate banners was also blocking the kinds of economies of scale which could only be achieved by creating a grouping closer in size to the European average.

The all-party committee concluded, therefore, that Agusta and Aeritalia would be better brought under the same holding company. In the past the question as to whether this should be IRI or Efim has been bedevilled by the fact that the former is within the Christian Democrat sphere and the latter the Socialist Party's.

The criterion, the report says, should be the degree of support and synergy which could be provided by other companies within one or the other state groups. Given the presence in IRI of Italtel, the telecommunications company, and Selenia, the radar and communications group as well as Elsag, the electronics company, the committee concluded that "there is no doubt" that moving Agusta into IRI with Aeritalia would strengthen the innovative capacities of Italian Aerospace as well as its financial results.

John Wyles

Israel

Worries of a fragile industry

IT IS ALWAYS risky having all your eggs in one basket but that is precisely the uncomfortable position the Israeli aerospace industry finds itself in today.

A number of Israeli companies are in the forefront of technological development in avionics; significant research work is under way on anti-missile defence systems; and the industry has carved a substantial niche for itself in the growing world market for refits and upgrades of existing aircraft.

But if the Lavi combat aircraft is cancelled—as is currently being threatened—the consequences for the still fragile Israeli industry would be little short of catastrophic. The impact of cancellation would extend well beyond the advanced aircraft's maker, Israel Aircraft Industries, to a wide range of local and foreign subcontractors employed on the ambitious US$4.5bn project.

State-owned IAI, a billion dollar conglomerate with interests ranging from armoured cars to signal intelligence systems, has had a mixed record in developing and selling its own aircraft over the past two decades.

Commercial success came early with the Kfir, a variant on the Mirage III, and with its executive jet, the Westwind. But newer indigenous Israeli models such as the Astra, a larger and more advanced business aircraft, and an ungainly-looking STOL cargo aircraft, the Arava, appear unlikely ever to repay their development costs.

With more than 22,000 employees, IAI is a major enterprise by any standards. Sales have grown steadily over the past four years, and exports now represent 60 per cent of turnover compared with 42 per cent in its 1983-84 financial year. Profits, however, have been disappointingly small.

Balance sheets have not been published since March 1985, but independent analysts believe the company has moved heavily into the red as the strain of building the Lavi prototype began to build up. Approximately a third of IAI's manpower is currently involved with the project in one form or another.

A small, multi-role aircraft comparable to General Dynamics' F-16, though with superior ground-attack capability, the Lavi has become a symbol of Israel's striving for technological self-sufficiency, particularly in the defence field. Its avionics are reckoned to be as good, or better, than those of any aircraft currently in service with neighbouring Arab countries. When it made its maiden flight late last year, national pride and joy knew no bounds.

Technological achievement or not, attitudes towards the new aircraft within the Israeli Air Force are, however, damagingly negative. As pressure has mounted from Washington for IAI's baby to be strangled at birth, before it grows into an unaffordable monster, senior Air Force commanders have come out publicly in favour of buying a modified version of the F-16C instead.

The problem is simply one of spiralling development costs, with the project eating up an increasing share of the $1.8bn the US provides annually in Foreign Military Sales grants. In an attempt to get to grips with the problem, Mr Yitzhak Rabin, the Defence Minister, has ordered that annual spending on the Lavi be kept to US$550m to the end of the decade. But even insiders admit that this ceiling is unrealistic.

Instead of cancelling the Lavi outright, one possibility currently being promoted by Mr Rabin is to designate the aircraft as a "national project", removing it from the confines of the circumscribed defence budget. While this bookkeeping ploy is unlikely to satisfy the Pentagon, it could appeal to Israeli politicians as an acceptable way out of their dilemma.

After so much investment of time, money and national prestige, no cancellation decision would be easy for any Israeli government. What makes it doubly difficult is that, for IAI, no comparable substitutes are in sight to fill the gap. In addition, the state-owned company will be the biggest loser from Israel's reluctant decision to ban new arms sales to South Africa—if this announced intention is translated into practice.

The exact figure is a closely-guarded secret, but Western diplomats estimate that South Africa is probably responsible for about US$200m a year in defence revenues for Israel. The relationship with Pretoria is a two-way street, with South African technicians said to be working on the Lavi and South African finance invested in Rafael, the government weapons research and development authority in the north of the country.

If this were not enough, the government is also struggling to keep alive Bet Shemesh Engines, the country's only manufacturer of complete aero engines, increasingly run down as its financial difficulties multiplied.

The latest plan calls for the sale of the government's majority holding in Bet Shemesh Engines to Mr Stef Wertheimer of Iscar, a successful exporter of turbine blades and precision cutting tools, with Pratt and Whitney retaining its minority interest.

It is, perhaps, no coincidence that IAI's two most prosperous subsidiaries these days are Elta, which makes state-of-the-art electronic warfare products including airborne radars, and Bedek, the company's maintenance and overhaul division. The upgrading and refitting of overseas customers' aircraft has become something of an Israeli specialty, being both a discreet and cost-effective way of prolonging an aircraft's planned lifespan.

Other straws in the wind are sub-contract work on the Pentagon's "Star Wars" programme, and an increasing volume of useful off-set purchases by US aerospace majors.

But if, despite everything, the Lavi goes down, Gen. Mordechai Hod, the former Air Force commander who took over last year at IAI, will find himself fighting the battle of his career to limit the damage which will undoubtedly ensue.

Andrew Whitley

Spain

Export sales set to rise

FOR A COMPANY that has just had the worst financial year in its history, Spain's aerospace manufacturer Construcciones Aeronauticas (Casa) is in remarkably confident mood.

The state-controlled airframe company nosedived into a Pta 8.6bn ($69m) loss in 1986, after making a Pta 1.6bn profit the year before. Its sales were down from Pta 47.8bn to Pta 46.4bn, hit by a sharp drop in exports from Pta 37.2bn to Pta 32.5bn.

In January, the INI public-sector holding group removed the chairman, Mr Fernando de Caralt and put in one of its own managing directors, 40-year-old Mr Javier Alvarez Vara. The new chairman, an aeronautical engineer by training, had previously had the aviation and defence sectors as part of his responsibilities at INI, and he has since moved swiftly to replace most of Casa's divisional heads.

The company's performance was badly affected by the fall of the dollar, in which its exports, the bulk of its business, are denominated, and by its failure to sell in the US market. However, Mr Alvarez Vara describes the results as a temporary upset, reflecting above all the start-up costs of new programmes.

To combat what he calls "the fever caused by rapid growth," Casa is avoiding further expansion of its 10,500-strong workforce, reducing the rhythm of investments and reorganising production. But he says the company still has "a brilliant future."

Although 72 per cent state-owned (with Northrop of the US and Messerschmitt-Boelkow-Blohm of West Germany as the main minority shareholders), Casa stands out among aerospace companies as one of the least dependent on home-government purchases. These make up only about a fifth of its business.

In the US, Mr Alvarez Vara says he is "not overwhelmingly happy" with the offsets being offered by the US under military co-operation programmes, although "we have been one of the great beneficiaries of the little there has been." The US civilian market is also a weak one for Casa's aircraft.

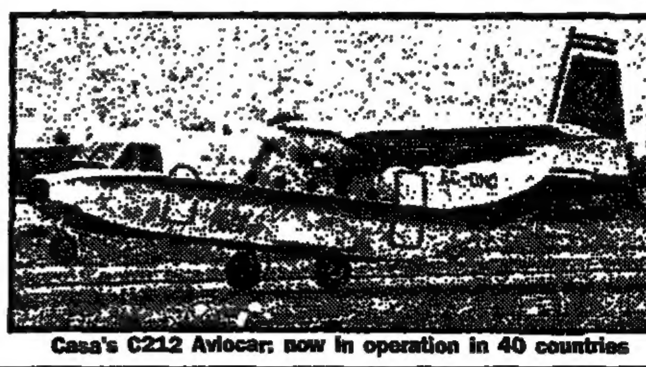
The company's own three aircraft make up rather less than half its total activity. Its C-212 Aviocar, a high-wing twin turboprop for both military and civil use, is now in operation in 40 countries, with about 400 aircraft sold in some 70 different versions. It is especially suited to developing-country markets because of its low maintenance costs, and Mr Alvarez Vara compares it with the old DC-3. "It can do anything except make love," he says.

The Indonesian company Nurtanio, which started out making the Aviocar under licence, is partner in a joint production venture for the CN-235, an updated, bigger and longer-range aircraft but with the same design philosophy. It broadly resembles the Aviocar, with the same rear cargo-ramp door, but has an increased capacity of 44 passengers or 5 tonnes payload, against 25 passengers or 2.5 tonnes.

Apart from Spain and Indonesia, the CN-235 has been sold in Saudi Arabia, Botswana and Panama. Casa is now pushing in other markets and is discussing a joint project with Poland.

Its third own-design aircraft is the C101, a single-jet basic military trainer with ground-attack capacity, which has been exported to Chile, Honduras and Jordan.

The company is now looking for a European partner for a new fighter project, the AX, which it hopes will reach the viability-study stage this year. Aimed at complementing the European Fighter Aircraft (EFA), in which Casa is participating, and the F/A-18 fighters which Spain is buying from McDonnell Douglas with some input from Casa, the idea is a robust, low-cost attack aircraft with limited air-combat capacity.


Casa's C212 Aviocar: now in operation in 40 countries

It will not be the "dernier cri" in technology but will be "very advanced for its pretensions," says Mr Alvarez Vara. "We're a poor country," he adds with a smile. "We can't have planes like the US 6th Fleet has for every mission."

The fighter would be about three years behind the new Eurofighter. Spain has a 13 per cent share in the EFA project, alongside Britain, West Germany and Italy, a big improvement on the 4.2 per cent share Casa has in Airbus.

Although it would like a bigger role in Airbus, the programme accounts for about a quarter of Casa's total sales; its participation includes the stabiliser, made out of carbon-fibre. This technology for the horizontal part of the tailplane has become a Casa speciality and the company says Airbus was the first civil aircraft to incorporate it. Casa is also providing stabilisers for the F/A-18, among other parts, and is due to carry out similar work for McDonnell-Douglas's MD-11 airliner.

Casa's other activities include subcontracting for companies such as Boeing, Dassault and Canadair, and parts for the Ariane rocket. For more than 30 years it has been doing maintenance for the US Air Force as well as the Spanish Air Force, and currently overhauls US Phantom and F-15 fighters based in Europe.

The company's present cost-cutting efforts will entail "some sacrifices" among its less profitable programmes, Mr Alvarez Vara says, although he will not say which. But he is already optimistic that this year will not be so bad.

David White

Brazil

Confidence in the future

EMBRAER, Brazil's state-owned aircraft manufacturer, has been flying high on sales and reputation, but merely crop-spraying when it comes to profitability.

That, the company claims, is about to change. In the medium term, the company intends to dispose of its production of small executive aircraft through a privatisation scheme and aim for the stars with a new joint venture in rocket launchers and missiles that will justify a claim to be the Third World's first genuine aerospace company.

This year, Embraer's traditional bullishness remains intact, despite Brazil's mounting problems over its suspension of interest payments on US$68bn of longer-term commercial bank credits and a worsening inflation crisis at home.

If foreign interest in its products—dominated by commuter planes and the air force trainer, the Tucano—were the reason, the confidence could be justified. While last year total sales amounted to some US$377m, double those of 1984, these are now expected to rise sharply again to US$630m this year of which US$430m should come from exports.

The boost comes largely from sales of the Brasilia, a 30-seat commuter plane, now attracting considerable interest, particularly from US regional airlines which account for more than 60 per cent of current orders. Forty-one Brasilias—selling at about US$5.5m—are due to be delivered this year, representing 52 per cent of the company's export sales.

Company officials claim that performance over the past two years has been inhibited by the change from the popular, but now ageing 13 to 19-seat turboprop Bandeirante to the larger aircraft.

The company is now preparing for production of its new EMB-123 rear-engined 19-seat turboprop which is being manufactured in conjunction with Argentina's Farbrica Militar de Aviones (FMA) and is designed to take up the market that the Bandeirante filled.

The $300m investment with assembly lines in Brazil and Argentina plans first deliveries for 1990 at a price estimated last year of between $3.2m and $3.5m, depending on customer specifications.

Sales of Embraer's air force trainer, the Tucano, are holding up well, however, following the headline-grabbing deal with Britain's Royal Air Force. The company now claims that its orders of 586 Tucanos (226 already delivered) make it by far the world leader in the turboprop trainer class, in only a little over three years from the first marketing efforts.

Britain and Peru took delivery of their first this year, and there are rumours—not encouraged by the company's discreet management—that both France and China may be close to lodging substantial orders.

The last potential overseas earner is the AMX tactical ground attack strike aircraft, currently being developed with Aeritalia and Aermacchi of Italy. Embraer's contribution—wings, air intakes, horizontal stabilisers and weapons pylons—account for some 30 per cent of the finished product, which it is hoped will attract widespread interest both in the Third World and the developed countries.

According to the Brazilians, the first AMXs of a possible 150 should be delivered to the Brazilian Air Force in 1989, while the Italians are anticipating theirs as soon as June 1988.

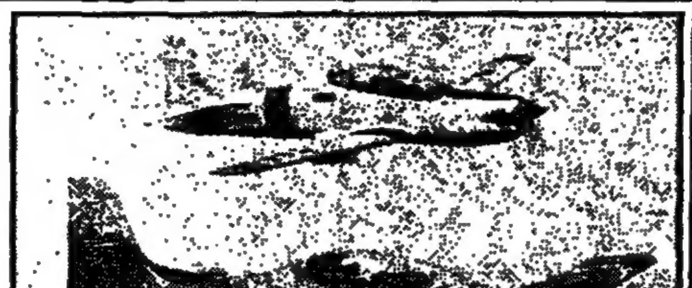
For Mr Ozilio Carlos da Silva, who inherited the chief executive's job from Col Ozires Silva, now heading the state oil company, Petrobras, the task now facing the company is to concentrate its technical expertise and keep management slim.

For that reason, Embraer plans to dispose of its executive aircraft subsidiary, Neiva, which contributed just 3.5 per cent of total sales, move away from general aviation and go for the big dollars—and big risks—that rocket launchers and missiles appear to offer.

"We can't invest in all kinds of technology," Mr da Silva said this month "We have changed scale in terms of technology, equipment and personnel training—this means we have to participate in programmes that use these things.

"You need to have a light management structure—we were becoming a very big, very expensive company."

Mr da Silva's solution has come in Orbita, a new joint venture with Brazil's state-owned arms, tanks and armoured vehicles manufacturer, Engesa. The new company, as yet funded only by $4m seed capital, is held 40 per cent each by its two major contributors with the remaining 20 per cent coming from other private and public sector companies.


The Embraer Tucano air force trainer. Its sales are expected to rise

Its first two research programmes will go into developing options for an air-to-air missile and an anti-tank missile. But the area that most excites Mr da Silva appears to be the possibility of developing a Brazilian launcher to help raise the home-grown component in the country's costly satellite programme.

Details of the satellite plans remain hard to establish, though clearly the applications remain limited to broadcasting and meteorology.

Nevertheless, with the US Challenger and the European Ariane projects currently in the doldrums, it would be unwise to write off Brazil's efforts—particularly in the light of its recent successes in supplying inexpensive, but reliable, workaday products to the armed forces of the Third World.

"Orbita is not intended to be in the front line of competition in space activities," Mr da Silva emphasises. "We must keep our feet on the ground and supply Brazil's needs for launchers for communications and meteorological satellites with solid fuel rocket launchers."

In the meantime, Embraer plans to keep its aviation sights firmly on the horizon, with a determination to hold its market share in both the commuter or regional airlines market and in air force trainers.

So far, Brazil's debt problems with the rest of the world have not affected the company despite widespread fears that credits could be effected. The lack of retaliation, and Mr da Silva's belief that life in Brazil without high inflation is the oddity not the rule, should calm worried foreigners abroad.

Mr da Silva claims that Embraer's low profitability of some 4 per cent of total sales last year was an aberration. Others argue that some in the government have still continued to dream of 7 per cent growth in GDP despite inflation rising now at 20 per cent a month.

For Embraer such growth rates remain some way off. For the moment Mr da Silva has declared himself ready for profitability rises of just 4 per cent—not so bad, experts say, given the state of the aircraft market.

Ivo Dawnay

Belgium

Sifting the options

THE OUTLOOK for Belgium's aerospace industry can best be summed up with a number of questions: which option will the Government choose when the time comes to replace the Air Force's F16s? Where will the Army turn to find its new military helicopters? And how will Belgian participation in the next stage of the Airbus programme—the building of the A330 and the A340—compare with its current arrangements?

Since Belgium is too small to justify production of its own designs, its principal aerospace role has been as sub-contractor to other countries' projects. That inevitably leads to uncertainty—not least given that Belgium has seldom been able to grab an adequate share of a programme's development phase—but the problem is compounded at the moment by severe restraint on public spending and an unstable government with other distractions on its mind.

The most important work for local companies such as Sabca, Soneca and FN Moteurs comes from the BFr 50bn contract signed in 1983 to buy a further 44 F16s made by General Dynamics of the US. The "offset" arrangements—ie subcontract work placed by General Dynamics with companies in Belgium—are worth 58 per cent of the purchase price in direct supplies for the aircraft plus a further 22 per cent of "indirect" orders (roughly BFr 10bn) between now and 1993.

Mr Hermann Candries, general manager of the Flemish Aerospace consortium FLAG (a grouping of more than 127 companies involved with the industry) is particularly enthusiastic about the benefits of this part of the deal. "We think this will help a lot of projects get off the ground and once up they will keep on running even when the General Dynamics money order runs out."

The well-publicised rivalry between the new European Fighter Aircraft (EFA)—a consortium of Britain, Germany, Italy and Spain—and the French Rafale project spearheaded by Dassault inevitably has fuelled speculation about Belgium's involvement in the next generation of fighter aircraft. Discussions have been held with both camps but there is as yet little indication which way the wind is blowing.

Staying with the Americans at General Dynamics is another option, of course, but the chances are that Belgium's present administration headed by Mr Wilfried Martens will have long since gone before a final choice of partners and the extent of Government funding have been decided.

Last month's new capital injection for Sonaca, the Charleroi company which is Belgium's leading contractor for the Airbus programme, leads some people to believe that government funds are more likely to be available for this civil project. Belgium is an "associate member" of the Airbus consortium through BelAirbus, a company whose major shareholders are Sonaca, the central Government and the Walloon Regional Executive.

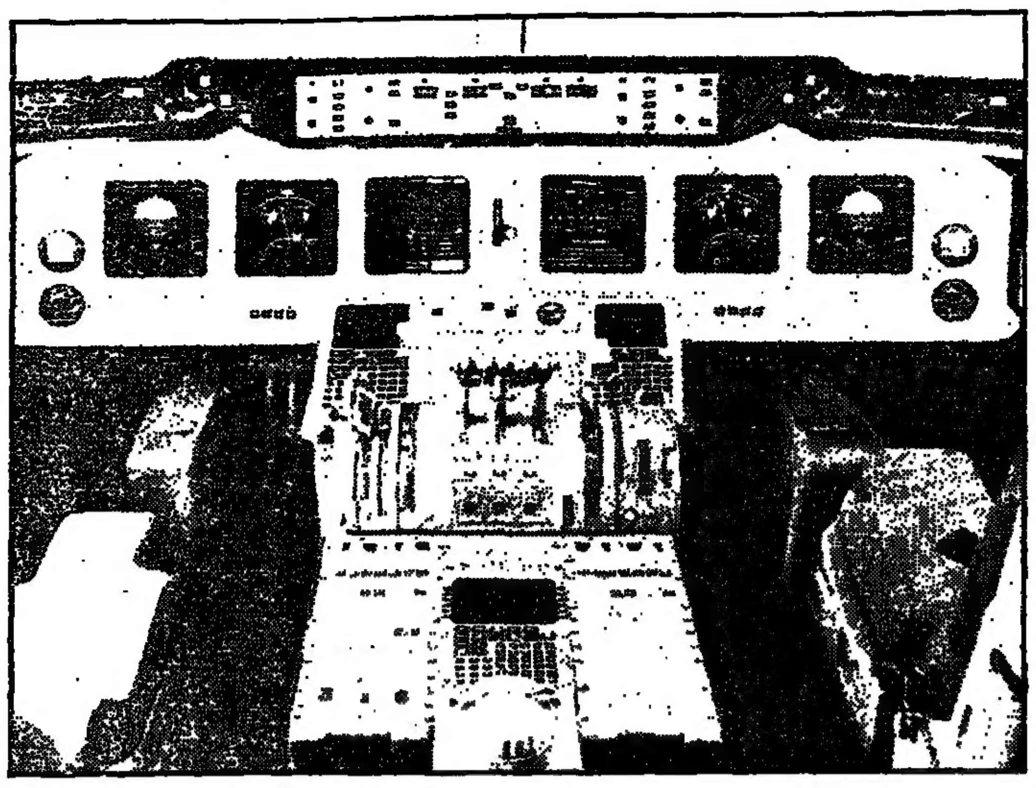
Flanders companies in the form of Asco and Watteeuw between them have 52 per cent of the Belgian work, which essentially is concentrated on the aircraft's wings and associated electronic systems. ADM, another FLAG member, has a contract with British Aerospace for production of the wing-tip navigation lights while Barco Industries, a company which has recently obtained a listing on the Belgian Bourse, is one of several suppliers on a purely "free market" basis.

The question now is whether Belgian companies can increase their participation beyond avionics and the airframe when production starts on the A330 and A340. The Government is keen to encourage a more substantial role but no doubt the financial realities ultimately will determine the outcome.

Three other issues are significant for Belgium: the Government's commitment to the European Space Programme in which local companies have scored some notable successes; the decision on replacing Belgium's 46 Aerospatiale Alouette 2 and 3 helicopters where the choice, according to one local observer, appears to be between the French company and MBB of West Germany; and commercial interest in the Squalus civil and military trainer aircraft being developed by a joint Belgo/Italian company Promavia.

The Walloon region has invested much capital and faith in the Squalus project and the first flight in April was pronounced an outstanding success. Embarrassingly, however, it is an open secret that the Belgian Air Force at the moment favours another design.

Tim Dickson



Advanced cockpit layout under development for the McDonnell Douglas MD-11 wide-cabin tri-jet features six cathode ray tube displays for operational, navigation, engine and systems data.

Avionics

Electronic systems bring revolution

ABOUT A third of the cost of a civil airliner is accounted for by the airborne electronic equipment — the avionics — on board. In the case of the military sector, the proportion of cost attributable to avionics is much higher and is likely to rise as more aircraft operating functions are taken over by electronic systems.

The changes brought about in aircraft design, both civil and military, and aircraft operations through the increasing use *of electronic systems* are little short of revolutionary.

Civil airliners such as the new 150-seat European Airbus A320 *airliner* and the still to be completed McDonnell Douglas MD-11 *tri-jet, use computer-gener*ated colour graphics on cockpit visual display units. These provide the flight crew with all the *information previously dis*played on banks of dials and gauges, so baffling to the untrained eye and a strain even for qualifed pilots.

The developments in electronic systems have made it possible for aircraft designers to produce aircraft that are safer, easier and more economical to fly and which take much of the strain off the flight crew.

The changes have gone much further than the automatic pilot equipment fitted to aircraft for *many years and which provided* pilots with the most substantial change in their working practices since the earliest aircraft.

The new cockpit layouts on civil and military aircraft are *one of the more obvious changes* in avionic equipment. Less obvious are the developments which affect the way aircraft fly. In particular, the use of so-called "fly-by-wire" techniques are expected to have a major impact on aircraft safety and efficiency as well as relieving pilots of much of the routine pressure of flying.

"Fly-by-wire" techniques *in*volve on-board computers which operate as an additional "brain," receiving information *from sensors around the flying* surfaces of the aircraft and processing the information from these in relation to the flight requirements and wishes of the *pilots.*

On the new A320 Airbus airliner, the traditional joystick controller has been re*placed by side-stick controls,* which are simple and light to use and more akin to the control sticks of domestic computer games *than control units* for an airliner.

The pilot uses these sidesticks to communicate with the computer. He or she, and there are an increasing number of women pilots of civil airliners, especially in the US and in Europe in British Airways, decides on a particular manoeuvre. This could be a gentle turn after take-off, or a change in course at cruising altitude.

This instruction goes to the flying controls surfaces, via the computer. But the computer is also processing its own information coming by "wire" from the sensors. This information gives the current status of the aircraft, its trim and attitude. The information is processed by the computer in relation to a software *computer program which* defines the "flight rules" for the aircraft, the limits beyond which the aircraft should not fly.

The computer compares the pilot's instructions with the flight rules and their relation to the *information* coming from the sensors.

The aircraft could be making an extremely tight turn to the right, when the pilot demands, through his control stick, a sudden, rapid, perhaps emergency, turn immediately to the left. This could put an enormous, possibly catastrophic strain on the airframe causing the aircraft to crash.

The computer will sift the pilot's request and, through the flight rules, determine whether *it is safe to comply with the* request. If it is not safe to do so, the computer will not allow the control surfaces to make a turn to the left of the suddenness demanded by the pilot. The aircraft will probably turn more gently to the left.

This is one extreme example of how the "fly-by-wire" electronic computed based flight system can help the pilot. The pilot is free to use his control stick as he chooses.

A dangerous mistake cannot be made, *as can happen on old*er technology aircraft built and designed on traditional design principles, where the pilot's skill and manual dexterity are the main controlling factors.

The fly-by-wire concept also has benefits for increased fuel economy, since the flight rules computer software program can be written to optimise fuel consumption.

Lynton McLain

Japan

Potential for collaboration

IS AEROSPACE the next industrial sector in which Japan will try to become internationally *competitive?*

That question has tormented Western aerospace industry officials for years. They look at *the* success of Japanese makers of cars, motorcycles, television sets and many other products in Western markets and wonder if the same will happen in aerospace.

However, it now looks like the wrong question. Many analysts would say that the Japanese aerospace industry is already competitive in many sectors, both in technological and commercial terms. It is on the verge of self-sufficiency, for example, in building satellites and the large rockets needed to launch them.

However, the prospects for an independent Japanese aeropace *industry* are severely limited. The domestic commercial aviation market is small, compared with the cost of pro*duct development in this sector*, and foreign suppliers are well entrenched.

The military market is restricted by the political opposition to any significant increase in defence spending, and the near sacred prohibition on exports of military equipment. And, at the moment, more than 80 per cent of the industry's business is military.

There is, however, a lot of potential for the industry in international collaborations, and many analysts expect that it is now on the verge of a period of major growth and technological advancement.

According to the society of Japanese aerospace companies, Japan's aircraft production and repairs will amount to an estimated Y633.8bn (£2.7bn) in the current fiscal year to March 31 1988, up 4.8 per cent over last year. They hope annual sales will exceed Y2,000bn by the end of the century.

Also, the quality of the Japanese contribution to collaborations in increasing rapidly. The companies are no longer just manufacturing under licence, they are also participating in the design and development of new products. Among the main projects under way are:

- The Patriot surface to air mis*sile is about to be produced for* Japan's Self Defence Agency (JDA) by Mitsubishi Heavy Industries (MHI) under licence *from the US Navy.*
- The JDA has ordered 200 XT-4 trainer fighters from Kawasaki Heavy Industries (KHI).
- *Japan Aircraft Development*, a joint venture of MHI, KI and Fuji Heavy Industries (FHI), is in a joint venture with Boeing to design and build a new 150-seat commercial jetliner, the YXX.
- Seven Japanese, US and European engine makers will begin full scale production this autumn of the jointly developed V2500 jet engine. It will be used initially in the Airbus Industrie A-320 commercial aircraft.

For all the potential in these projects, the most important aerospace question in Japan these days is undoubtedly the *fate of the so-called FSX pro*ject. This is the JDA's plan for replacing its 77 *obsolete* F-1 fighter aircraft. The programme would involve the construction of more than 100 aircraft at a cost of up to Y1,000bn.

Until recently, it would have been taken for granted *that the* new fighters would be purchased from US manufacturers or manufactured under licence from them in Japan. However, Japanese defence contractors have mounted a vigorous campaign to win the contract to design and develop a new aircraft on their own.

Given Japan's huge trade sur*plus with the US, the issue has* become highly sensitive, with several US administration and congressional spokesmen *demanding that Japan* buy American. The Japanese government is due to make a decision this summer, and it looks as *if the outcome will be a joint* development project, involving a US manufacturer, either General Dynamics or McDonnell Douglas, and the Japanese Companies, with the Japanese in the lead.

The European Group, Panavia, has also made a proposal, basically offering a total transfer of technology to Japan, but it seems to have only an outside chance of gaining acceptance.

The Japanese Aerospace industry is obviously confident that it will win big orders in the future, because it has been building new capacity at a high rate. MHI, the industry leader, has just completed building a Y10bn plant in the Nagoya area *for making Patriot missiles*, and plans further expansion for space equipment.

KHI, one of the partners in the V2500 engine project, has just completed a Y 2.1bn engine plant and plans to build a Y1.5bn assembly line for XT-4 trainers. FHI intends to build a seaside plant for making large aircraft body components.

Meanwhile, *te* country is about to become self-sufficient in satellites and the rockets to launch them. In the past year, it *has* launched rockets with 550kg payloads, although they use some US technology. Now, it is developing one, the H2, that will *send up 2,000kg payloads*, starting in 1992.

The National Space Development Agency (NASDA) wants to get into the commercial satellite launching business. It is confident that its costs will be competitive and is already in discussions with potential customers.

Ian Rodger

China

Being equipped by the west

THE Chinese Communist Party is presently under the influence of conservatives emphasising the importance of "self reliance." But, much to their frustration, China's civil aviation industry will be carried *into the next century by foreign* suppliers.

An unusually evocative cartoon in the official China Daily *recently gave an insight into the* Chinese view of the foreign rush to sell the equipment that is needed. Three aircraft, respectively labelled "Airbus," "Boeing" and "McDonnell Douglas," were shown elbowing each other out of the way in an attempt to *land* on a Chinese airstrip.

After a US$2.5bn aircraft*buying spree during 1985* and in the first half of last year, the Civil Aviation Administration of China (CAAC) has slowed its purchases. CAAC's director-general, Mr Hu Yizhou, who has a reputation as a reform-minded manager but still wears a Mao suit, made clear during a rare interview that fewer purchases would be made this year because many aircraft already ordered have yet to be delivered.

The CAAC has received much *publicity in the past two years* for a plan to divide itself into six autonomous branches and allow the establishment of regional airlines, in an apparent attempt to promote competition and improve efficiency. In theory, the regional airlines have the authority to order aircraft for their own use.

But, Mr Hu says, the competition is "quite different in nature" from that in the West, as the Chinese airlines complement each other under the jurisdiction of the aviation administration, which still has the *major say in equipment* purchases: "The travelling demand can't be satisfied at the moment. This is a unique situation *in the world.* In America some airlines go broke because of competition. CAAC will not go broke."

Boeing has had the best of the market, although, as with all imports, China is keen to have a mix of suppliers so that it will not be dependent on any one company. Since the early 1970s, Boeing has sold about 54 air*craft, and the company esti*mates that, in dollar terms, it has had a 70 per cent share of the market.

McDonnell Douglas has sold five MD182s and has 25 more on the way under a co-operation agreement providing for the assembly of the aircraft in Shanghai. The first MD-82 produced under the agreement, which was signed 10 years after co-operation was first discussed in 1975, is due to be delivered in July to the Shenyang branch of the *CAAC in the north.*

The company is presently discussing with the aviation administration the possibility of producing an additional 150 medium-range airliners, with capacity of 150 to 180 passengers. If nothing else, the McDonnell Douglas Shanghai agreement shows that China now wants the manufacturing companies to do more than just sell aircraft.

Under the agreement, the company will provide, among other things, an FAA certifiable pilot training and simulator facility by the end of this year, and it must arrange countertrade to assist China to reduce the foreign exchange cost by up *to 30 per cent.*

With much of its immediate needs met, the administration has asked major aircraft and engine manufacturers to submit proposals to satisfy demand in the 1990s. McDonnell Douglas has estimated that China will need up to 200 more medium-sized passenger aircraft by the end of the century, and is confident that the Shanghai project combined with China's desire to localise production will work in its favour.

Mr Li Anping, deputy director of the civil aircraft department of the Aviation Ministry, has explained that China wants to coproduce a 150-passenger aircraft in the 1990s, and suggested that up to 100 would be needed to meet domestic demand. Mr Li also revealed that China will no longer import aircraft for agricultural purposes and will *rely on modified versions of its* existing fleet.

His statement was a reflection of China's foreign exchange shortage, which has led to strict controls on many categories of imports in the past year. The shortage has also made Soviet aircraft more attractive than they otherwise might be, and China has contracted to purchase 17 TU-154s under a barter trade package.

British Aerospace has established a manufacturing presence by signing a contract last November for the assembly of BAe advanced turbo prop (ATP) aircraft rudders at the Shenang Aircraft Corporation. The US$750,000 contract is an *attempt to capitalise on the* market opening gained in 1985, when BAe sold 10 of its BAe 146 four-engined regional airliners.

China has also purchased five A-310 airliners from Airbus Industrie, and Short Brothers of Belfast has been given an order for eight of the Shorts 360 small commuter and feeder aircraft.

Pratt and Whitney have been the leading engine suppliers, while General Electric have provided a few and Rolls-Royce will supply RB-211 engines for *three Boeing* 757 aircraft ordered in February this year by the Guangzhou (Canton) branch of th CAAC and due for delivery in September and October.

China has successfully spread its aircraft suppliers in the past two years, and kept pressure on the major manufacturers, who have been willing to offer better *than average deals to get a foot* in the so-called "open door." While further spot purchases are likely in the next two or three years, industry observers expect that the next big Chinese commitment will be to a joint production agreement that is more than an assembly line.

Robert Thomson

Australia

Debate on open skies policy

BY THE standards of most, developed countries, Australia's aviation and aerospace indusry is hardly glamorous. But there is no shortage of activity.

Over the past few months a series of major issues has come before the Labor Government of Prime Minister *Bob Hawke*:

- Deregulation of the domesic airline system. A government response is awaited to the May commission report on Australia's unpopular two-airline policy, which restricts competition in fares and services and limits aircraft purchases.
- Related to this, the idea of selling airport terminals to the private sector. A decision to go ahead with eight international terminals was announced earlier this month, along with the sale of the Government Aircraft Factory.
- The question of whether to privatise Australian Airlines, the state-owned domestic carrier which competes with the privately-owned Ansett Airlines, and Qantas, the international carrier. The Labor Party Government is instinctively inclined against the idea, and no decision is likely ahead of the next election, due before April next year.
- Settlement of a serious aviation rights dispute with the US which, after a year of fruitless negotiations, has led Australia to renounce a seven-year-old capacity agreement. The US has accused Australia of creating a crisis in bilateral aviation relations.
- The question of help for local aerospace companies to reduce their dependence on the local defence sector and improve their export performance. Participation in aircraft production with companies such as Boeing and Airbus is one of many possibilities.

Of these issues, the most significant domestically is the May Commission report. Published in January *after two years'* work, the report criticised the country's two-airline policy, which restricts operations on *domestic trunk routes to the two* major carriers, Ansett and Australian Airlines. Both are highly profitable.

The commission offered four choices for change, each a more progressive form of deregulation up to a complete "open skies" policy. But it refrained from making its own recommendation.

Sir Peter Abeles, the head of Ansett, quickly reacted to the proposals by saying there were only two options for the Government—maintaining the present system or complete deregulation.

According to Sir Peter, complete deregulation and full competition would be feasible only if Australian Airlines, Ansett's principal competitor, was privatised—something the commission was not able to consider.

He also says Qantas and other international airline should be prevented from expanding operations on Australian domestic routes. Currently they carry only international travellers.

Though many agree with Sir Peter, others fear that, without a government-owned competitor, Ansett would have an unbeatable advantage because of the extra industrial muscle conferred by the asssociated travel and transport operations of its owners, the powerful TNT and Mr Rupert Murdoch's News Group.

According to the small East-West airlines, which is challenging the validity of the two-airline policy *in the courts*, real competition could be assured only if regulations were changed concerning airport access, *the importation of air*craft and fare pricing.

Submisssions have been made on the report by all sectors of *the aviation industry*, and the Government is now busy preparing a policy statement for releasse this month.

But change may not come quickly. Three years' notice is supposed to be given of an end to the two-airline policy. This means a continuation of the present system until 1990—unless East-West wins its court case.

At some stage the issue of privatisation of Australian airnes seems bound to arise. Early hints of such a plan aroused criticism in April, when the Government was busily casting round for possible savings ahead of its expenditure statement last month.

It was in this statement that the Government announced the sell-off of its eight international terminals. Sale of *the domestic* terminals was also considered, but the change of ownership ahead of any deregulation might have influenced the *all-impor*tant matter of airport access for prospective competitors.

The chances of Qantas being privatised seem even *more* remote without a change of government, depite the wordwide trend of airline flotations.

Indeed, the *increasingly* noticeable difference in attitude and philosophy between Australia and other countries over this sort of *issue lies* behind the simmering row with the US over aviation rights which boiled over last month.

At *government-level talks* in Canberra, Australia suddenly renounced its capacity agree*ment with the US*, prompting Washington to hint at retaliation as well as to talk of a crisis in bilateral aviation relations.

The break was provoked by a request from Continental Airlines to increase the frequency of its flights to Australia and its plan to switch some of these services from DC-10s to bigger 747 Jumbos.

Australia *said Continental's* moves were not supported by demand. It criticised the airline for picking up traffic in third *countries and accused it of* "dumping." The US pointed to the memorandum agreed in 1980 which provided for objec*tions to* increases in capacity to be discussed after trial periods of six months.

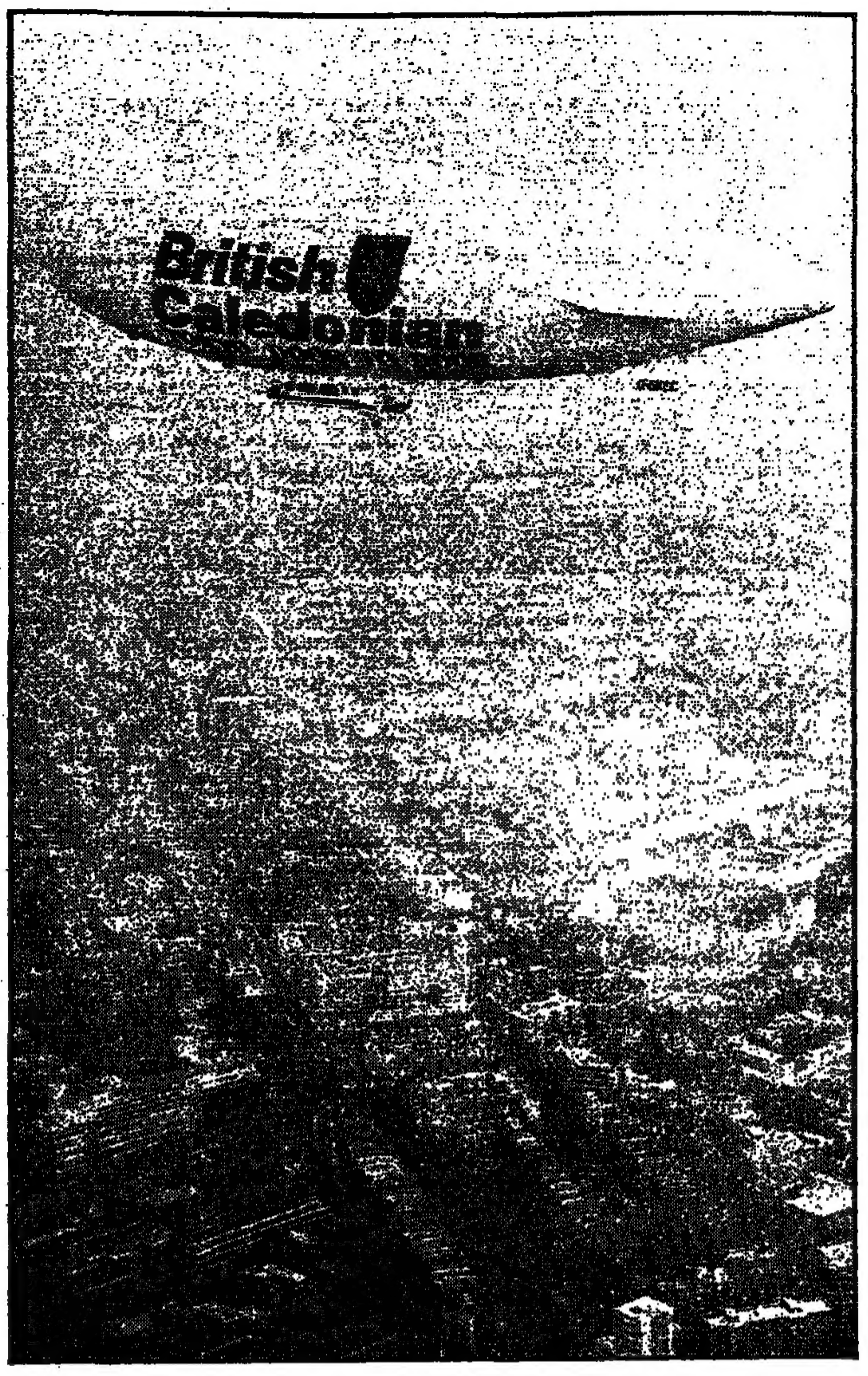
Without a resolution *of* the problem, both sides have to fall back on the principal bilateral agreement, which remains intact but is seen as vague and *unsatisfactory.*

As for Australia's fledging aerospace industry, this is seeking support from the government on a number of fronts. One of the most important concerns participation as a partner in projects with the world's major aerospace companies.

The projects include the new Airbus A-330 and A-340 and the Boeing 7J7. Such collaborative possibilities spring from the government's offsets policy and the foreign companies' desire to reduce risk. Hitherto Austra*lian* companies have mostly had a sub-contractor role.

The problem is the overall economic climate of austerity in Australia. Only last month the Government announced the proposed sale of the Government Aircraft Factory in Victoria,

Chris Sherwell



Skyship over London. Pleasure flights and aerial advertising are the prime civil uses for the new European airships. They also make effective high-level TV camera platforms for major events.

Airships

Progress as more uses are explored

THE AIRSHIP, or lighter-than-air craft, has made a considerable comeback in recent years, due largely to the vigorous efforts made in this field by a small UK-based but Australian-controlled organisation, Airship Industries.

That company's most significant competitor in the Western world is Goodyear of the US, which has specialised for many years in the development of small lighter-than-air craft (which it call "blimps") for the US armed forces.

AI is an associate company of Bond Corporation Holdings of Perth, Australia. The first of its range of powered, steerable airships, the six-passenger Skyship 500, made its maiden flight in September 1981, and a stretched derivative, the 12-14 passenger Skyship 600, first flew in March 1984.

These two types of airship are intended to satisfy requirements in the civil, military and paramilitary fields. The prime civil applications are for aerial advertising and promotion and pleasure flight operations, while defence applications involve primarily surveillance-related activities.

In the defence field, the airship is especially suitable for airborne early warning, anti-submarine warfare, electronic warfare and mine counter-measures activities.

Airship Industries, or "AI", now has 10 craft flying, five Skyship 500s and five Skyship 600s, with two more of the latter under construction. One of the Skyship 600s, operated by AI, earlier this year was the subject of a £6m 12-months leasing deal with a major Japanese advertising agency, for use in night-time advertising.

That craft will use an AI-developed on-board system of generating pixels or light-emitting diodes, capable of a range of 1,600 colour shades and a change rate of 25 frames per second, effectively creating huge television screens.

The pictures will be generated through a computer system which will accept VHS video tapes, live TV camera pictures or a keyboard caption generator for up-to-the-minute messages.

AI is satisfied that with this system it has created a means of greatly enhancing the airship's already impressive advertising abilities.

Other roles for the airships include TV platforms for major sporting and other events (an Airship Industries craft covered last year's Americas Cup yacht races in Perth, Australia, for world TV), and the occasional tourist sight-seeing ventures, including a recent series of flights over London.

But for the longer term, the company has also conducted extensive studies into the potential use of large airships, and is now involved, in conjunction with *Westinghouse Defense* Systems of the US, in a major battle with Goodyear of the US, to win a big order from the US Navy for airships for use with the fleet at sea for detection of enemy supersonic sea-skimming missiles, under what is called the US Naval Airship Programme, or NASP.

The US Navy has turned to airships because they are cheap to buy and fly in comparison with fixed-wing or rotary-winged aircraft; they are also stable in all but the fiercest of weather; and can remain airborne for extensive periods without needing to return to shore bases to refuel.

The US Navy wants enough airships to be able to keep several permanently airborne to give adequate protection to the fleet at all times while at sea, and it has been talking in terms of an eventual order worth some $2bn, although the initial contract would be smaller.

In the joint Westinghouse-Airship Industries venture, a big airship called Sentinel 5000 is being proposed, in competition with Goodyear's major new craft, GZ-22.

The Sentinel 5000 would be one of the biggest airships built, with an overall length of 410 feet and a hull diameter of 102.5 feet, and using 1.65m cubic feet of helium, powered by two diesel engines for cruising and one turbo-propeller engine for fast operations.

Its gondola, slung under the hull, would have two decks: one carrying the avionics equipment for the airborne early warning system (to be built by Westinghouse) and the other for crew quarters.

The US Navy's decision was originally expected earlier this year, but has been delayed for financial reasons and for further examination of the rival proposals. But Airship Industries is expecting that a decision will come some time this summer.

If the joint Westinghouse-Airship Industries venture does win the US Navy competition, it will do more than just give AI a lot of work for years to come.

It will effectively confirm the validity of the whole concept of airships for a wide range of roles, which AI has been fighting for since its foundation, and finally lay to rest the attitude that has prevailed for many years that airships as a type of aircraft are inherently unsafe or in some other way unsuitable as workhorses of the air.

As a result, AI can foresee a major breakthrough into the commercial market for airships following inevitably in the wake of such a major US Navy order.

Michael Donne

Space efforts

Confidence dented in West

ON MARCH 26 this year a spectacular rocket accident in Florida set the seal on an extraordinary 14 months for the Western world's space industry, a period which the industry must be fervently hoping is an historical aberration.

The mishap, involving an explosion on board an Atlas Centaur rocket made by General Dynamics, meant that in a little over a year the West's five major launcher systems had all suffered failures of one kind or another.

Besides severely denting confidence among the entire space industry, the run of failures has dealt a blow to a range of space programmes, involving the launch of commercial satellites for communications and also of military vehicles. The West's manned space projects have come to a complete stop.

The series of problems can be regarded as highly unfortunate on the grounds that, around the end of 1985, prospects for the space industry appeared to be sky-high. After two decades of development, commercialisation of many kinds of space projects hitherto associated with science fiction appeared likely in the foreseeable future.

These included the routine launch of satellites, not only for the tried-and-tested jobs of relaying telecommunuications signals around the globe but for more esoteric work such as providing navigational information for ships and cars, together with still more advanced ideas about turning out exotic new materials on board space platforms. The difficulties in the West have been in complete contrast to the buoyant space programme in the Soviet Union; the Soviet Union was responsible for no less than 88 per cent of the world's entire launch activity last year. It has, moreover, put into orbit a new, improved space station called Mir which is currently home to two cosmonauts.

The base, an advance on the country's Salyut space stations which first entered the heavens in 1971, will act as a centre for a range of scientific experiments and help the Soviets build up experience in manned space operations, an area in which they already have a considerable lead over its chief rival, the US.

Of the run of Western launch accidents, the March mishap, which resulted in the loss of a Navy communications satellite that the US National Aeronautics and Space Administration was attempting to lift into orbit from Cape Canaveral, was probably caused more by flight-control slackness rather than by a fault in the Atlas Centaur.

It seems that the rocket was hit by lightning shortly after take-off, an event that Nasa flight controllers could have avoided, so observers have speculated, by delaying the mission until a spell of severe weather had passed.

The west's satellite launches

	Launcher	Payload(s)	Success or failure
Jan 86	Shuttle (US)	RCA Satcom	S
Jan 86	Shuttle (US)	Air Force satellite	F
Feb 86	Atlas Centaur (US)	Air Force satellite	S
Feb 86	Ariane (Europe)	French remote-sensing satellite	S
March 86	Ariane (Europe	Satellites for Brazil and GTE	S
April 86	Titan (US)	Air Force satellite	F
May 86	Delta (US)	Weather satellite	F
May 86	Ariane (Europe)	Intelsat satellite	F
Sept 86	Delta (US)	Star Wars payload	S
Sept 86	Atlas Centaur (US)	Weather satellite	S
Nov 86	Scout (US)	Science satellites	S
Dec 86	Atlas Centaur (US)	Navy satellite	S
Feb 87	Titan (US)	Military satellite	S
Feb 87	Delta (US)	Weather satellite	S
March 87	Delta (US)	Satellite for Indonesia	S
March 87	Atlas (US)	Navy satellite	F

The other four failures—starting with the Challenger space shuttle explosion in January last year and continuing with mishaps involving the US's Titan and Delta rockets and Western Europe's Ariane launcher—were all connected with technical problems associated with the launch vehicle itself.

The West's launcher problems have caused a spate of satellite groundings and accident inquiries, as a result of which the launch programmes in Western Europe and the US have slowed to a snail's pace. The Soviet Union meanwhile, has been forging ahead.

In 1986, when US managed just six successful launches (five involving expendable rockets and one Shuttle mission) the Soviet Union was responsible for no fewer than 91 rocket launches. These put into space a range of satellites for jobs such as communications and weather monitoring and for military operations such as surveillance or early warning of nuclear strikes.

This year, the USSR appears to have suffered a setback, with two failures of its Proton launchers, according to reports in the West. But the country has not let these events interfere with its launch programme, which quickly returned to schedule *after the latest mishap.*

During last year, the Ariane rocket, developed by the European Space Agency and now sold by Arianespace, a commercial organisation based in France, made two successful launches. The European Space Agency is a 13-nation consortium which co-ordinates Western Europe's space projects.

Japan and China, the world's other two main space powers, each managed two launches during 1986.

From the West's point of view, it is difficult to see events turning for the better in the near future. The US's Space Shuttle fleet, comprising the three vehicles that remain after the Challenger's loss, are unlikely to fly again until summer next year at the earliest.

After the Ariane mishap in May last year, further flights of the rocket have been stopped so that lengthy modifications to the vehicle's third-stage motor can be made. The next mission is expected some time this summer.

A number of US communications companies, including Western Union and GTE, are suffering from the launch delays by the fact that satellites which they had expected to be seeing service in orbit are instead still stored in warehouses, awaiting flights. The difficulties have led to a depression in the space industry as a whole.

The one bright spot has been confidence expressed by two US companies, McDonnell Douglas and Martin Marietta, that they will be able to make a success out of offering launch services involving the Delta and Titan rockets to commercial customers. Launch operations for these rockets, hitherto conducted by Nasa and the US Air Force respectively, have been passed *to the commercial sector in a* novel example of privatisation.

Both McDonnell Douglas and Martin Marietta say they have orders for their vehicles from a number of organisations, including Comsat and American Satellite Company (two US communications companies) and Intelsat and Inmarsat, which are international consortiums operating satellites for ground telecommunications and ship-to-shore messages respectively.

Both companies, which expect to start their launch activities around the end of 1988, will be heavily dependent, however, on orders from the US Government for the launch of military payloads.

While the space activities of Western Europe and the US have been in disarray, such has been the confidence of the Soviet Union that it has offered use of its space facilities to the West. The offer is to launch commercial satellites on the country's tried-and-tested Proton rockets and the Soviets have even suggested renting out equipment on board Mir to westerners.

The equipment could include furnaces and other systems in which new materials such as novel semiconductors could be produced under the low gravity and vacuum of outer space.

So far, these invitations have met *largely a cool response.* However, among one set of people, the West's scientific community, the offers of co-operation have been well received. Scientists from West Germany, the Netherlands and Britain are involved with astronomy experiments now taking place aboard Mir. Such collaborative links involving the Soviet Union and Western groups could well be a foretaste of what is to come, particularly if the West's mainstream space activities continue to be dogged by problems.

Of these programmes, the biggest scheme on the drawing boards is a plan by the US and its international partners—Western Europe, Canada and Japan—to build a permanently-manned space station by the mid-1990s. Planning for this, however, has been going far from smoothly.

The base, with room for about eight people, would have a variety of roles, including acting as a servicing centre for satellites, as a laboratory for materials processing and as a platform for Earth observation.

After three years of discussions, the various countries are still some way from agreeing on the format for proceeding with the venture which, according to estimates, could cost about $20bn by the end of the century. A major problem has been an insistence by the US Defence Department that it wants a say in running the station, something that the other countries have resisted.

Until the difficulties are resolved, the shape of programmes organised by the European Space Agency is unlikely to be clarifed. Among the ESA projects scheduled for the next decade are the construction of the Columbus orbiting laboratory, which is due to plug in to the central US core of the West's space station, and the development of a heavy-duty Ariane rocket.

Peter Marsh

An artist's concept of a possible supersonic business jet aircraft, as envisaged by British Aerospace. Such an aircraft would carry 12 passengers over distances of up to 3,500 nautical miles, at speeds close to twice that of sound (Mach 1.85).

Airports

Increasing pressures for expansion

THE STEADY EXPANSION of air transport throughout the world, is generating considerable pressures, not only on the airlines themselves but also on the entire ground infrastructure of the commercial aviation industry.

As a result, there is now hardly an airport anywhere in the world that is not undergoing modernisation, expansion or refurbishiment to cope with the rising tide of passengers and cargo, and plans for many new ones are either being laid or commissioned.

It is estimated by the International Civil Aviation Organisation, the aviation technical agency of the UN, that the average annual growth in world scheduled air passenger traffic is likely to be between five and seven per cent in the years immediately ahead.

Last year alone, scheduled domestic and international air traffic rose by six per cent to reach some 950m passengers, and if the less easily quantifiable charter and non-scheduled traffic is included, it seems likely that well over 1bn passengers flew somewhere in the world during 1986.

Extrapolating the ICAO growth estimate through to the mid-to-late 1990s, it seems likely that by the end of this century, throughout the world, including the Soviet Union and China, there will be some 2bn air passengers a year, counting both scheduled and non-scheduled activities.

Not only will these require aircraft to travel in—leading to outlays of some $222bn on new aircraft both to meet the growth and to replace existing ageing fleets, and resulting in the growth of the total world airliner fleet from the current level of about 7,000 jet airliners of all kinds to about 9,500—but they will also require both new and enlarged airports to handle them on the ground.

As a result, it has been estimated that worldwide between now and the end of this century, the direct outlays on airport and associated developments on the ground (such as all types of equipment to facilitate handling) will amount to about $90bn.

Although this figure may appear to be large, it may eventually prove to be even conservative. An individual airport can cost upwards of $500m, especially when constructed on a greenfield site, and there already are some very ambitious projects under way or planned, such as that for the new Kansai airport on reclaimed land in the sea in Osaka Bay, which is likely to cost upwards of $5bn, while plans for a major new airport for Hong Kong on Lantau island have been recently resurrected and that project may yet come to fruition.

In Singapore, some $554m (Singapore) will be spent on the expansion of Changi International Airport.

When such sums are taken into account, the $90bn does not seem so large, and there are many in the world air transport industry who believe that it will eventually prove to be low.

In any event, the figure covers only the period up to the end of the century, and since it is recognised that air transport is likely to continue its expansion well into the next century, substantial further sums will need to be spent beyond that figure.

The factor behind this expansion is simply that air transport is now regarded as a major contributor to any nation's economic growth in its own right. This is especially the case in the UK, where civil aviation contributes annually more than £350m to the nation's balance of payments, and provides direct employment to over 100,000 people, and to many thousands more indirectly.

The seven airports owned and run by BAA plc, formerly the British Airports Authority (which is due to be privatised this summer, the world's first State-owned airports organisation anywhere to be transferred to the private sector), and which includes the biggest international airport in the world, Heathrow, collectively provide employment for some 72,000 people. Of these, BAA plc itself accounts for nine per cent, with the rest employed by airlines, agents, concessionaires and Government organisations such as immigration and Customs and Excise.

BAA plc itself, following its outlay of more than £200m on the new Terminal Four at Heathrow (raising that airport's total capacity from 30m to more than 38m passengers a year) will be spending about another £680m between now and the early 1990s on other major programmes. Few people doubt that further substantial sums will need to be spent before the century is out, possibly for example on a second runway at Stansted in Essex or a new Terminal Five at Heathrow, or both.

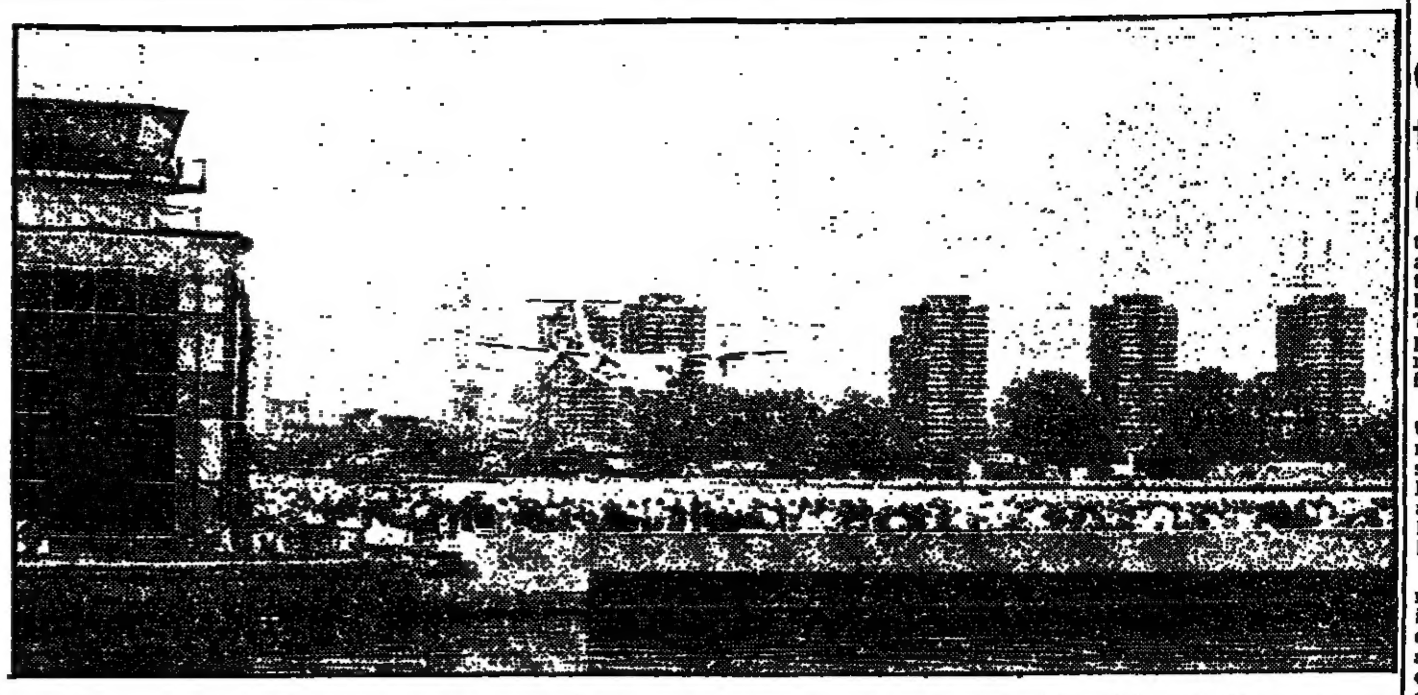
BAA plc's activities include some £80m on refurbishing Terminal Three at Heathrow, to become operational in 1989; some £200m on the new North Terminal at Gatwick, to become operational next year, raising that airport's total capacity from 16m to 25m passengers a year; and some £290m at Stansted in Essex to raise its capacity to some 8m passengers a year, with provision for further growth to 15m. At Glasgow £110m is being spent on refurbishment and expansion, to equip it for the growth in Scottish air traffic in the years ahead.

Also in the UK, a major new development is the City of London Stolport (short take-off and landing airport) that is being built as a private venture by John Mowlem, the construction engineers, in London's Docklands, close to London's business and financial centre, and due to come into operational use later this year.

Two airlines, Brymon Airways and Eurocity Express (part of the British Midland group) have already been licensed by the Civil Aviation Authority to operate competitive air services between the Stolport and such Continental destinations as Amsterdam, Brussels and Paris, starting this autumn.

The Stolport is expected to take some of the strain off Heathrow and become a major asset for business travellers seeking swift transport to and from the City of London itself.

The expansion that is going on throughout the rest of the world covers virtually every country, ranging from simple improvements such as installing improved radar and instrument landng aids through to the construction of new runways and terminal buildings and even building entirely new airports.



The new £26m London City Stolport (Short Take-Off and Landing airport) now under construction in the Docklands area east of the City, becomes fully operational in October. Already, however, trial flights into and out of the airport have been undertaken to familiarise crews and ground staff with the airport, and to alleviate local residents' fears of aircraft noise disturbance.

In Western Europe alone, major airport improvement programmes are under way or planned at Brussels, Charles de Gaulle (Paris) with a third passenger terminal due to open in 1987, Athens, Rome, Milan, Amsterdam, Oslo, Barcelona, Stockholm, Geneva and Vienna, to name but a few—and there are many others.

Elsewhere, in the Far East, a major airport construction programme is being planned for China, including a reported new building programme of up to 300 airports to bring that country's air transport network up to par with those of Western countries.

In Africa, major new programmes are under way or planned in many countries, including Botswana, the Central African Republic, Guinea, Kenya, Nigeria, Sierra Leone, Tanzania and Zambia. Other major developments are under way in South America.

Developments in the Middle East include a new airport at Al Ain in Abu Dhabi, due to open next year, and continuation of work on the King Faud Airport in the Eastern Province of Saudi Arabia to become operational by 1990.

These represent only a few of the scores of projects, large and small, now under way worldwide, but they serve to indicate how widespread the airport expansion programme is.

While much of the glamour and prestige of commercial aviation attaches to the passenger side of the system, cargo is not forgotten, for there, too, a massive expansion of 5 to 6 per cent a year through to the end of the century is forecast, and much money and effort is now being spent worldwide on improving facilities for the smoother handling of cargo.

This is not before time, for in many parts of the world, cargo has been treated as something of a Cinderella business and forced to exist in rudimentary facilities.

Far more attention is also now being paid to improving access to airports. Although recognised as vital in some of the more advanced nations, little attention has been paid to this in many countries. As traffic continues to expand, pressures for improved road and rail links between city centres and airports are also growing.

For what all those millions of passengers will require in the years ahead will be smooth, comfortable, convenient and safe transfers between airports and city centres.

Speed in the air can soon be vitiated by congestion and delays on the ground, and even in those cities where much attention has been devoted in the past to such elements of the system, for example in London itself, considerable further attention is now being paid to methods of further improving access to such airports as Heathrow and Stansted, in the remaining years of this century.

Although not included in the $90bn mentioned above, a substantial amount of additional cash, running into billions of dollars, will need to be spent on, or earmarked for, new road and rail access systems to airports, to speed the future flows of passengers.

Michael Donne

The new terminal Four at Heathrow, which became operational last year, adds a further 8m passengers a year to the airport's capacity. The picture shows the specious interior of the main airside passenger concourse.

Continued from page 1

Collaboration to spread costs

the overall UHB concept is added to the other advanced technologies, as it is expected to be in the forthcoming Boeing 7J7 twin-engined "prop-fan" powered 150-seater airliner, the result seems likely to be a very formidable aircraft indeed.

Other versions of "prop-fan" types of UHB-engined airliners may include a smaller, 100-110 seater, the McDonnell Douglas MD-91X, for service about 1991, and perhaps a larger 150-seater MD-92X, for service a little later.

But all the major engine manufacturers are either studying or even starting preliminary development work on other versions of these ultra high by-pass engines, covering every sector of the range/payload spectrum.

For although the concept itself is well understood, there are various methods of exploiting it and the resulting engines could reveal significant technological variations in shapes, sizes and such fundamental matters as whether they are better with or without gearboxes.

Where there is no basic disagreement, however, is that UHB power-plants will eventually emerge, although there are some deep differences over the time-scale of their introduction into service, with some believing they are likely in the early 1990s and others looking more towards the end of that decade for reliable engines.

The most anxiously-awaited decision in the commercial aviation market at this time, however, has nothing to do with engines, but as to when the new generation of Airbus airliners—the short- to medium-range high-density A-330 and the four-engined ultra long-range A-340—will be formally launched. Much detailed design work on these new ventures has been done already by Airbus and its shareholding companies in the UK, West Germany, France and Spain, and a substantial number of "launch customers" have been provisionally won.

After some delays, the UK and French Governments have now agreed to support the development of these new aircraft financially, and a West German Government decision, at time of writing, is believed to be imminent. If all goes well, a formal launch commitment may well be taken, and announced, during the Paris Air Show itself.